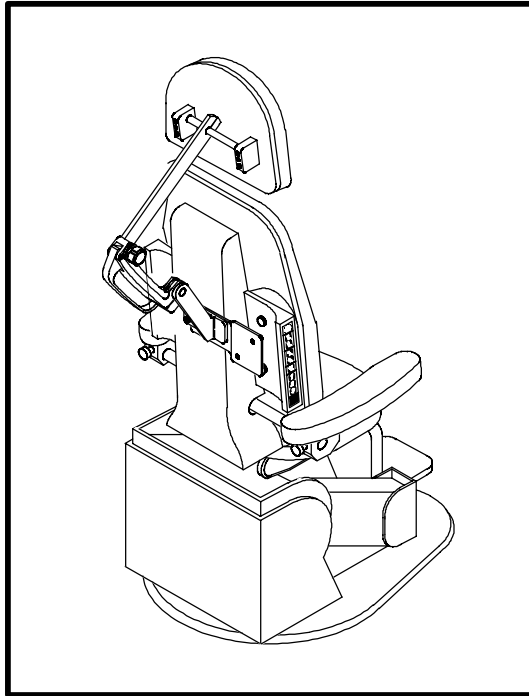
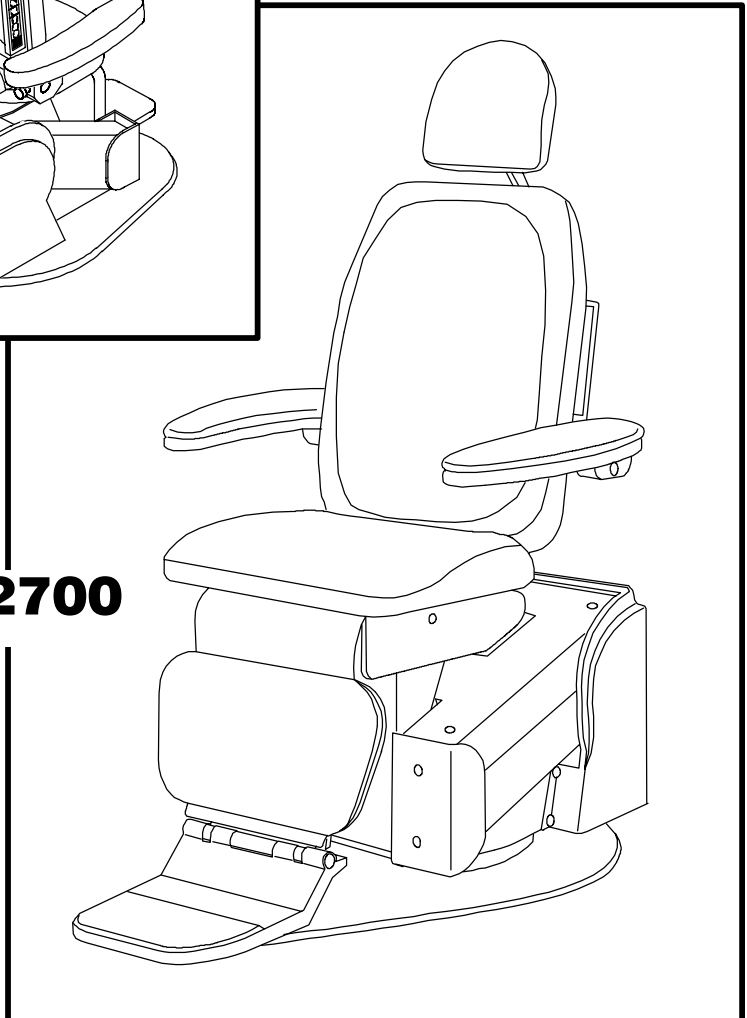


MAXICHAIR® SELECT

SERVICE MANUAL



Model 2700



When contacting Global Surgical™ Corporation for either Customer Service or Technical Service, it will be helpful if you have your **Customer Identification Number** and your **Customer Order Number** available. Please take a moment to record these numbers, which are printed on your invoice, on the spaces below:

Customer Identification Number: _____

Customer Order Number: _____



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Precautions and Warnings



This symbol on the product is an attention symbol, alerting the user to to read the Owner's Manual for important installation or operating instructions, or important safety information, which should be read carefully.



This symbol on the product indicates a potential electrical shock hazard, and alerts the user to read the Owner's Manual for important safety information on how to avoid the hazard.



This symbol appearing in the illustrations corresponds to the numbered step in the text.

WARNING: *Disconnect all electrical power from the chair before attempting to service the internal components of the chair. There is a risk of electrical shock resulting in injury or death if the power is not disconnected.*

WARNING: *Never adjust the Pressure Relief Value to the fully seated clockwise position. SEVERE DAMAGE to the hydraulic pump can result. The maximum adjustment is 3/4 turn from the fully seated clockwise position.*

WARNING: *Failure to make sure Fuseholder is properly snapped back into the secure position can result in intermittent function of the chair.*

WARNING: *Upon exiting the chair, if the occupant places his or her weight on ends of both of the Armrests at the same time and presses downward to raise themselves up, the Pivot Bracket attachment screw may break.*

CAUTION: *The only time a jumper should be placed in JUMPER, CYCLE ENABLE position is when the limit switch flags are being adjusted or when the chair is being placed into cycle test.*

CAUTION: *Do not overtighten the adjustment screw. Overtightening adjustment screw may cause pin in headrest assembly to break, removing all friction.*

CAUTION: *Slight adjustments to the manifold can translate to major changes in the performance of the hydraulic system. Make small adjustments, check the performance, and make further adjustments as necessary.*

CAUTION: *There have been cases where the 1/4" pin has also broken from the weight being applied to the front of both Armrests. These cases are rare but have prompted a design change to eliminate this situation.*

CAUTION: *In the event that there is a burr on the Armrest Shaft or if the 5/16" pin is broken inside the Pivot Arm Bracket the shaft may not slide through the bracket and may have to be cut in order to remove it. Should this happen, use a hacksaw and cut through the shaft on both sides of the Pivot Arm Bracket and pull out from both sides.*

CAUTION: *When installing a new Ribbon Cable Assembly, be sure not to allow the cable to become kinked or pinched by any of the cable clamps.*

CAUTION: *Tap Lubricant (3-in-1 Oil or equivalent) is absolutely necessary in this procedure to prevent the tap from breaking off in the casting.*

NOTE: *There are two fuses located in each fuse holder. The fuse in the front or closest to the cover, is a spare fuse. The fuse that will need replacing is in the back of the clip.*

- NOTE:** *The Rectangular Fuse Holders were replaced by Round Fuse Holders on chairs with serial numbers 1548 and above. The Round Fuse Holders require a flat blade screw-driver to open.*
- NOTE:** *There are two 2-amp fuses and two 10-amp fuses located in a plastic bag taped to the outside of the Control Box. When one of these fuses is used, it should be replaced with another and the bag re-taped to the outside of the Control Box.*
- NOTE:** *On some chairs, if the Pressure Relief Valve was adjusted too far clockwise, excessive pressure could be created exceeding the pump rating. This could result in hesitation or chatter in chair movement.*
- NOTE:** *The Hydraulic Pump does not activate during SEAT DOWN movement.*
- NOTE:** *If chatter is present in BackUp or Back Down movement, it may be related to the input valves being adjusted all the way flush. During all repair or adjustments to the chair with the back cover off, these valves should be adjusted to flush.*
- NOTE:** *The MaxiChair Select Controller is Multitasking, which means a Seat Function can take place at the same time as a Back Function. If more than one function is being performed at a time, combine the conditions from the above chart to get the proper Status LED results.*
- NOTE:** *Chair will start to move.*
- NOTE:** *It is a good idea to mark the cables using a small piece of masking or other tape to ensure they get reconnected to the proper places on the new PC board.*
- NOTE:** *Do not completely remove the left side Ribbon Cable at this time.*
- NOTE:** *The Pivot Bracket on current production models has been made thicker and a 5/16" pin secured by a "E" clip on both ends has been installed. These newer Pivot Brackets and Pins are also available for replacement upgrades.*
- NOTE:** *Worn or cracked Mounting Clevis components could produce vibrations or even cause the chair to jerk unexpectedly during the operation of the hydraulic cylinder.*
- NOTE:** *Use care when installing the single screw on the front of the Manifold Assembly. There is a washer (Retaining Flange 107-037-223) included with the screw which is used because of the slotted hole on the front bracket.*
- NOTE:** *In order to remove the Emergency Stop Caliper Brake Assembly both the Ribbon Wire Connector and the Power Cord must be pressed through the Cord Grommet in the Brake Disk. The Ribbon Wire Connector can be manipulated by turning the connector along side of the ribbon cable and pressed downward through the grommet. The Power Cord Plug, however, will not fit through the grommet and must be removed from the Power Cord in order to complete this procedure. A Pin Extractor will be required to remove the Power Cord Plug from the power cord.*

Section 1. General Service Information

1.1. Chair Specifications

The SMR® Maxi® Chair Select 2700 Examination Chair is designed to provide a comfortable, adjustable platform for conducting routine examinations. The chair is adjustable from an upright position, 90° above horizontal, to a slight decline (Trendelenberg position) of 10° below horizontal. The arms are fully articulated to move with the chair position. The manual headrest may be raised or lowered and moved forward or backward as well as locked into the position set. The arms swing up and out of the way and the footrest folds up for easy patient entry and exit from the chair. The chair is equipped with illuminated solid state controls located on both sides of the chair back for easy access. A Child Safety Disable Feature, disables the solid state controls when the chair is left unattended. The chair may be rotated manually and locked into position using an hydraulically actuated rotational lock. The control for the rotational lock is located on each of the control panels on both sides of the chair back. The chair is powered by a smooth, quiet, hydraulic motor driven by a microprocessor control board.

Table 1-1, below, lists the chair specifications and Figure 1-1 on the following page, shows the clearance requirements and maximum angles possible for the chair.

Table 1-1. Chair Specifications

ITEM	SPECIFICATIONS
Electrical Requirements: Input: Fuse: * w/optional Solarlite™ -**w/o optional Solarlite™	115 VAC +/-10%, 60 Hz, 7.75 Amps * 115 VAC +/-10%, 60 Hz, 7.5 Amps ** (2 ea.) 5 x 20 MM, 250V, 10 Amp, Time Delay (2 ea.) 5 x 20 MM, 250V, 2 Amp, Time Delay
Shipping Weight	Approximately: 400 lbs. (182 KG)
Base Dimensions	35.5" x 26" (90.17 x 66.04 cm)
Overall Height	50.75" (128.90 cm)
Maximum Lift Capacity	400 + lbs. (182 + KG)
Range of Chair Back Angle Adjustment Maximum Upright Position Maximum Reclined Position/ Trendelenberg Position	90° Above Horizontal 10° Below Horizontal
Chair Seat Angle (Fixed)	3° Tilted Back
Range of Seat Elevation Minimum Elevation Maximum Elevation	17" (43.18 cm) 19" (48.26 cm) LX 21" (53.34 cm) 36" (91.44 cm) 38" (96.52 cm)
Required Working Space for Chair Upright Position Reclined Position	37.25" X 27.25" (94.61 cm X 69.21 cm.) 75" X 27.25" (190.5 cm X 69.21 cm.)
Environmental Factors: Storage, Transport and Operation Operating Temperatures Storage Temperatures Non-condensing Relative Humidity Operating Storage	+50° F (10° C) to 90° F (32° C) -20° F (-28° C) to +150° F (65° C) 20% to 85% 20% to 85%

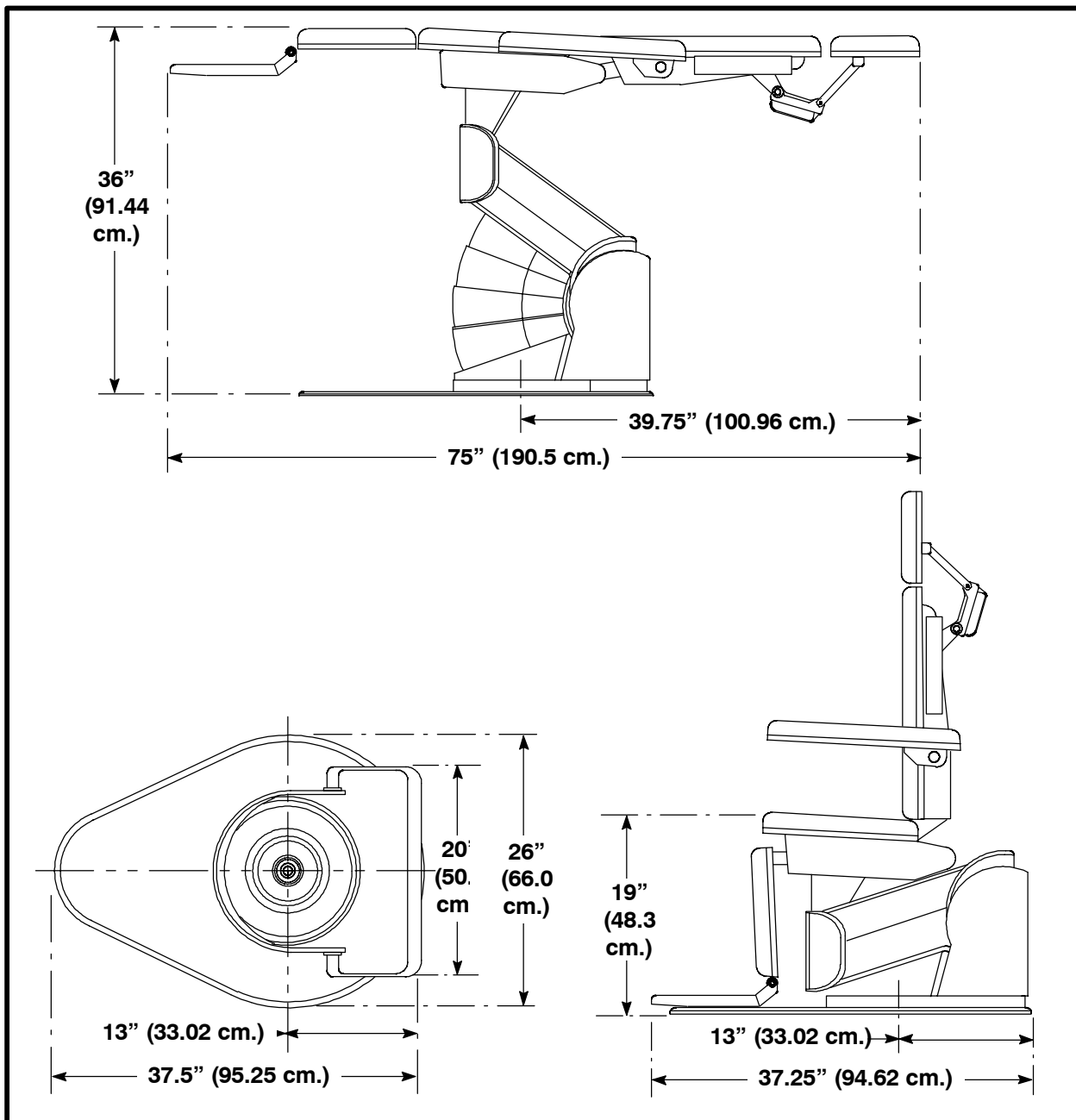


Figure 1-1. Overall Dimensions

1.2. Optional Equipment

Optional accessories for the SMR[®] MaxiChair Select S2700 Examination Chair include a footswitch to supplement the controls on the sides of the chair back. The SMR[®] SOLARLITE[™] is available and can be installed on an ambidextrous bracket to accommodate left-handed or right-handed operators.

Section 2. Service and Warranty Information

2.1. Warranty Information

Global Surgical™ Corporation warranty information is printed on the back side of your invoice. Please refer to your invoice for specific terms and conditions which apply to the particular product you purchased. Should you experience any malfunction, you should contact the Global Surgical Technical Services Department for assistance.

2.1.1. Technical Services Department

If you have questions which are not covered in this manual, please call the Global Surgical Technical Services Department as listed below:

- From St. Louis, MO call: 636-861-5234 or 636-861-5245
- From elsewhere in the U.S.A. call: 1-800-861-3610
- From Outside the U.S.A. either call: 1-636-861-5234 or 1-636-861-5245
- FAX number 1-636-861-5284

The staffing hours for the Global Surgical Technical Services Department are Monday through Friday from 8:00 am to 5:00 pm Central Time.

2.1.2. Internet Access

The Global Surgical Technical Services Department can be reached during non-staffing hours by using the World Wide Web at: <http://www.globalsurgical.com>

The Global Surgical Technical Services web site has several FAQ's (frequently asked questions) about products and services.

The Global Surgical Technical Services Department can also be reached by email at the following address: techservices@globalsurgical.com

2.1.3. Service Information

In the event of any malfunction, you should immediately contact the Global Surgical Technical Services Department for assistance. A **Customer Identification Number** and **Customer Order Number** will be needed when contacting the Technical Services Department. These numbers are printed on your invoice. To save time, in the event service is needed, record these numbers in the spaces provided inside the front cover of this manual.

A **Return Authorization Number** must be obtained from the Global Surgical Technical Services Department prior to returning the product for repair. The following information must accompany all returned units:

1. Your Name, Address, and Telephone Number
2. The Return Authorization Number
3. A description of the problem
4. Proof of the date of shipment

Ship or otherwise return the product, with transportation and insurance costs prepaid to:

Global Surgical™ Corporation
3610 Tree Court Industrial Blvd.
St. Louis, Missouri 63122

Attention: Technical Services Department

2.1.4. User Comments

Global Surgical™ Corporation would appreciate any comments and suggestions you have concerning this product or this manual. Please send your comments to:

Global Surgical™ Corporation
Customer Services Department
3610 Tree Court Industrial Blvd.
St. Louis, Missouri 63122

The Global Surgical Customer Services Department can also be reached by email at the following address: global@globalsurgical.com

Section 3. Service Information

3.1. Manifold Adjustments

The SMR Model 2700 Maxichair Select Examination Chair is controlled by a hydraulic motor. The hydraulics in the chair are assembled and tested at the factory. Should the controls malfunction or not perform as expected, the following adjustments can be made.

WARNING: *Disconnect all electrical power from the chair before attempting to service the internal components of the chair. There is a risk of electrical shock resulting in injury or death if the power is not disconnected.*

Tools Required:

- No. 1 Phillips Screwdriver
- Flat Blade Screwdriver

To make adjustments to the Hydraulic Manifold, proceed as follows:

5. Disconnect the electrical power from the chair.
6. Remove the protective plastic caps, then use the No. 1 Phillips screwdriver to remove the six screws from the rear chair housing. Refer to Figure 3-1.
7. Remove the rear chair housing.

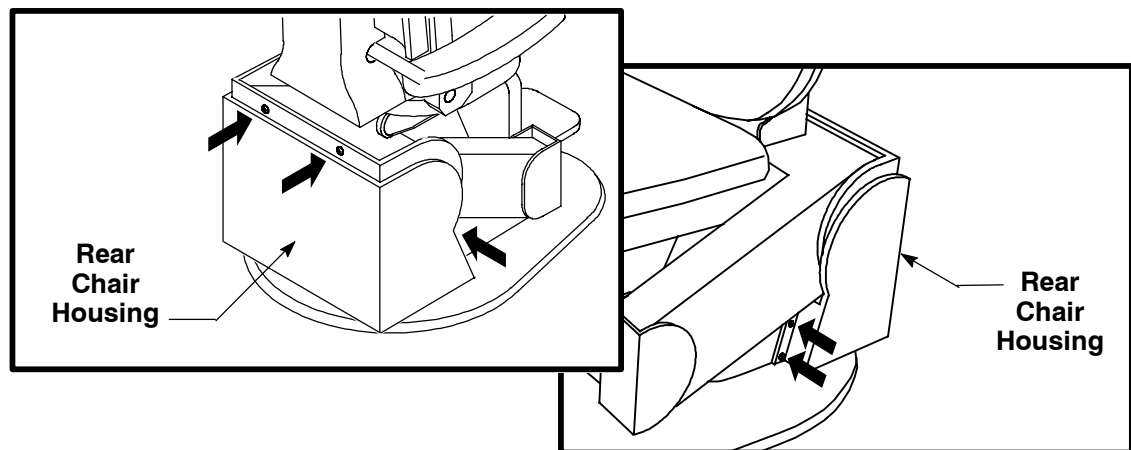


Figure 3-1. Removing the Rear Chair Housing

8. Using a flat blade screwdriver, make the following adjustments to the hydraulic manifold. Refer to Figure 3-2 and proceed as follows:

CAUTION: *Slight adjustments to the manifold can translate to major changes in the performance of the hydraulic system. Make small adjustments, check the performance, and make further adjustments as necessary.*

Pressure Relief Valve: The Pressure Relief Valve controls the hydraulic pressure for the overall hydraulic system. To decrease system pressure, adjust this screw counterclockwise 1-1/2 turns from the fully seated position..

NOTE: On some chairs, if the Pressure Relief Valve was adjusted too far clockwise, excessive pressure could be created exceeding the pump rating. This could result in hesitation or chatter in chair movement.

WARNING: **Never adjust the Pressure Relief Value to the fully seated clockwise position. SEVERE DAMAGE to the hydraulic pump can result. The maximum adjustment is 1- 1/2 turns from the fully seated clockwise position.**

Seat Down Adjustment: This adjustment controls the speed that the seat travels downward towards the floor. To increase the speed, adjust the screw counterclockwise. To decrease the speed, adjust the screw clockwise.

NOTE: The Hydraulic Pump does not activate during SEAT DOWN movement.

Seat Up Adjustment: This adjustment controls the speed that the seat travels upward towards the ceiling. To increase the speed, adjust the screw counterclockwise. To decrease the speed, adjust the screw clockwise.

NOTE: If chatter is present in BackUp or Back Down movement, it may be related to the input valves being adjusted all the way flush. During all repair or adjustments to the chair with the back cover off, these valves should be adjusted to flush.

Chair Back Down Adjustments: This adjustment screw regulates the speed at which the back of the chair moves towards the horizontal position. To increase the speed, adjust the screw counterclockwise. To decrease the speed, adjust the screw clockwise. Factory setting is 5 -7 seconds to go from preset pause at 75° to horizontal. *Reminder: Chair won't go to horizontal unless seat is 4"-5" raised from low point.*

Chair Back Up Adjustments: This adjustment screw regulates the speed at which the back of the chair moves towards the vertical position. To increase the speed, adjust the screw counterclockwise. To decrease the speed, adjust the screw clockwise. Factory setting is 5 -7 seconds to go from preset pause at 75° to horizontal. *Reminder: Chair won't go to horizontal unless seat is 4"-5" raised from low point.*

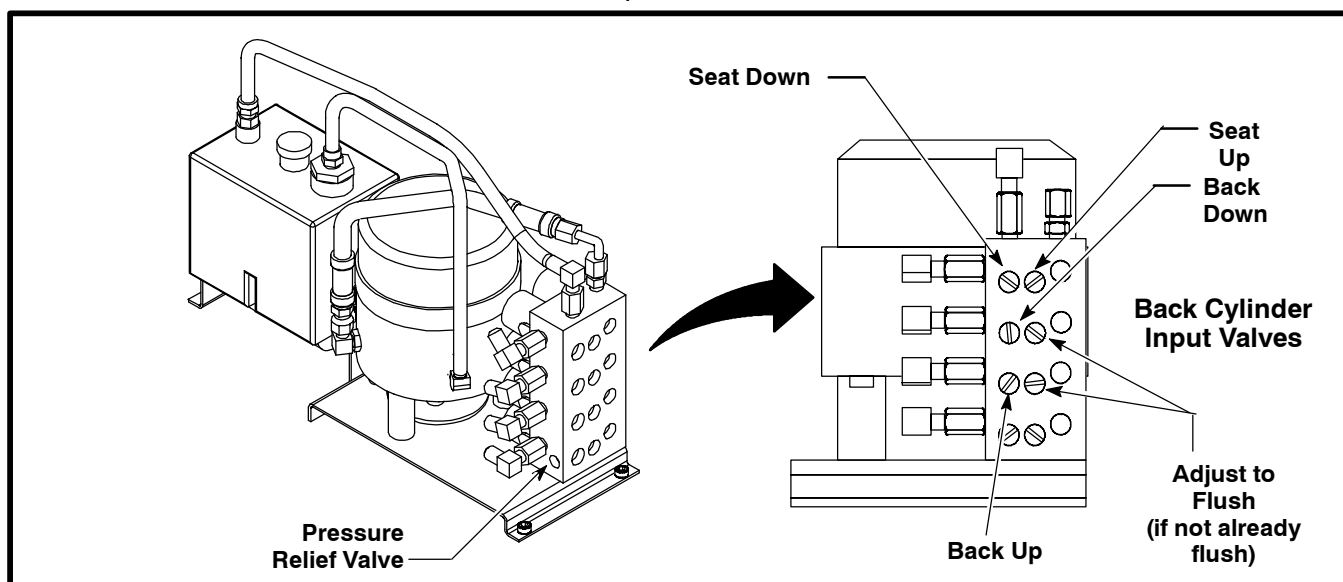


Figure 3-2. Manifold Adjustment Screw Locations

3.2. Fuse Replacement

The SMR Maxichair Model 2700 has four fuses located on the Maxi Selector Controller Box located inside the rear enclosure panels next to the Hydraulic Manifold.

The two top fuses control the electrical system for the chair and the two bottom fuses are for the AC receptacle located on the back of the chair.

3.2.1. Fuse Replacement (Chairs with s/n 1001 through 1547)

WARNING: *Disconnect all electrical power from the chair before attempting to service the internal components of the chair. There is a risk of electrical shock resulting in injury or death if the power is not disconnected.*

Refer to Figure 3-1 to remove the Rear Chair Housing.

To replace the fuses, refer to Figure 3-3 and proceed as follows:

NOTE: *There are two fuses located in each fuse holder. The fuse in the front or closest to the cover, is a spare fuse. The fuse that will need replacing is in the back of the clip.*

1. To open the fuse holder, press downward on the top. Grasp the cover and pull straight back. Remove the blown fuse from the Fuse Holder. Refer to Table 3-1 for fuse specifications.
2. Visually inspect and use the spare fuse. Place a new fuse in the spare clip in the Fuse Holder. Ensure Fuseholder snaps *up* into place.

WARNING: *Failure to make sure Fuseholder is properly snapped back into the secure position can result in intermittent function of the chair.*

3. Replace the rear chair housing.
4. Reconnect the electrical power to the chair.

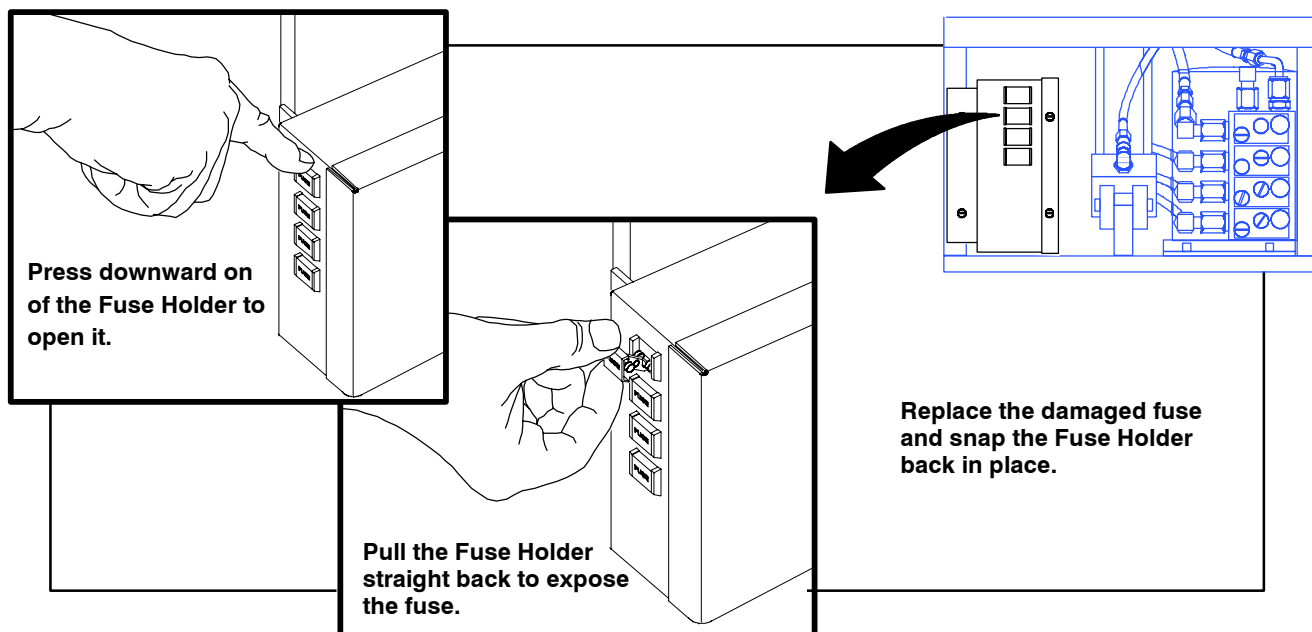


Figure 3-3. Replacing Fuses (Chairs with s/n 1001 to 1547)

3.2.2. Fuse Replacement (Chairs with s/n 1548 and above)

NOTE: The Rectangular Fuse Holders were replaced by Round Fuse Holders on chairs with serial numbers 1548 and above. The Round Fuse Holders require a flat blade screwdriver to open.

WARNING: **Disconnect all electrical power from the chair before attempting to service the internal components of the chair. There is a risk of electrical shock resulting in injury or death if the power is not disconnected.**

Refer to Figure 3-1 to remove the Rear Chair Housing.

NOTE: There are two 2-amp fuses and two 10-amp fuses located in a plastic bag taped to the outside of the Control Box. When one these fuses is used, it should be replaced with another and the bag re-taped to the outside of the Control Box.

The fuses found in the two top fuse holders are for chair operation and the fuses found in the bottom two fuse holders are for the AC Receptacle located on the back of the chair. To replace the fuses, refer to Figure 3-4 and proceed as follows:

1. Open the Fuse Holder by using a flat blade screwdriver inserted into the slot on the end of the fuse holder.
2. Rotate the Fuse Holder counter-clockwise. See Figure 3-4. The Fuse Holder has a spring-loaded mechanism and should pull right out.
3. Visually inspect and replace the blown fuse with the appropriate spare fuse located in the bag taped to the outside of the Control Box. In addition to replacing the blown fuse, a new spare should be placed in the bag and re-taped to the outside of the Control Box.
4. Replace the rear chair housing.
5. Reconnect the electrical power to the chair.

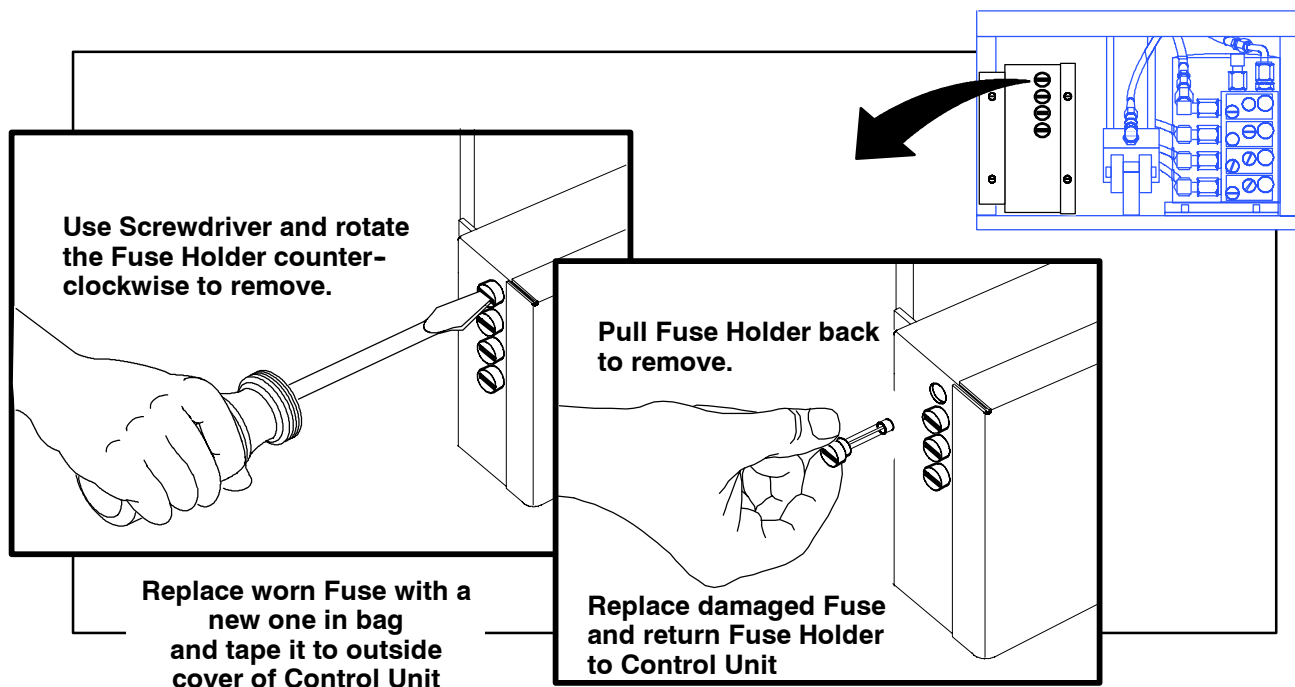


Figure 3-4. Replacing Fuses (Chairs with s/n 1548 and above)

3.3. Maxi Select Controller Features

The Maxi Select Controller on the SMR 2700 Maxichair can be used to service and troubleshoot the chair's electrical system. Refer to Figure 3-5 and Table 3-1 to proceed.

1. Remove the cover to the Maxi Select Controller by using a Phillips screwdriver to remove the Phillips screws attaching it to the controller box.

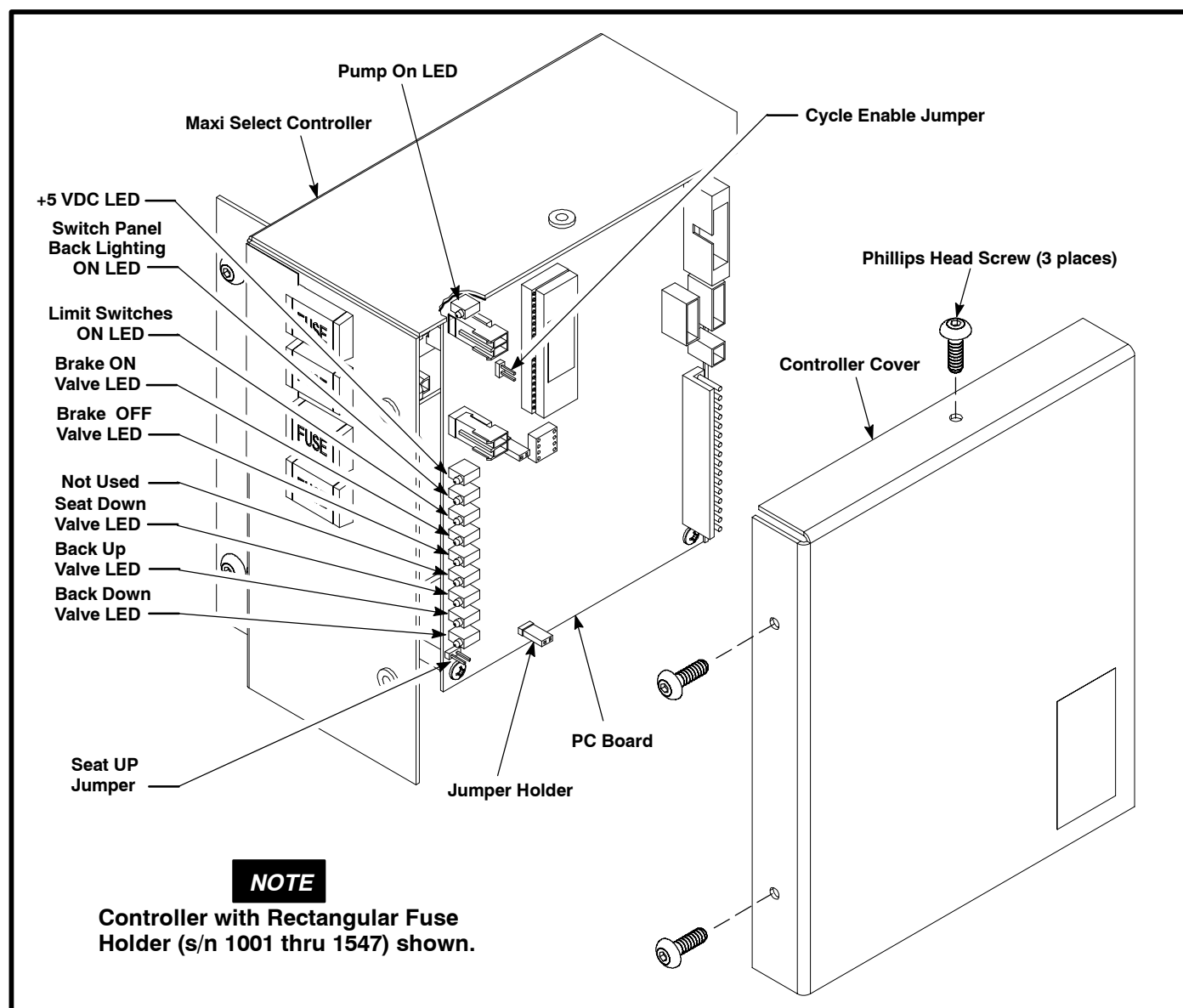


Figure 3-5. Maxi Select Controller Components

3.3.1. Status LED's

1. **Pump ON LED:** This LED is marked "PUMP" on the circuit board. This LED will illuminate any time a basic function of the chair requires hydraulic pressure. The following chart shows the functions that require hydraulic pressure.

	Brake ON	Brake OFF	Seat UP	Seat DOWN	Back UP	Back DOWN
Pump On		✓	✓		✓	✓

✓ = Hydraulic pressure required to operate functions.

2. **+5 VDC LED:** This LED is marked *VD* on the circuit board. It displays the status of the Power Supply resident on the circuit board. When **brightly lit**, the power supply is functioning within tolerance. If the LED appears **dim**, a voltage measurement should be performed. The voltage measurement can be taken between TP2 (ground) and TP3 (VD). The voltage reading should be between 4.80 VDC and 5.12 VDC.

3. **Switch Panel Back-Lighting:** This LED is marked *BACKLIGHT* on the circuit board. This LED and its companion LEDs on the switch panel display the status of the chair.



- Child Safety Mode:** This LED and it's companions on the switch panel will FLASH in one (1) second intervals when this mode of operation is selected.

- Cycle Test Mode:** This LED and it's companions will only be lit while the chair is performing a selected function. Half way through a single cycle, the LEDs will flash OFF, ON and OFF. Once the LEDs go OFF the second time, the chair will not accept any more commands from the switch panel. If a switch is pressed while the chair is performing a selected function, the cycle test will be halted.

- Cycle Test Error Mode:** If the chair encounters an error during its cycle testing, the cycle test will stop and the LEDs will flash rapidly.

4. **Limit Switches ON LED:** This LED is marked *LIMITS ON* on the circuit board. This LED is lit when chair back or seat function tests are to be performed. To extend the life on the infrared LEDs on the limit switch boards, they are only turned ON as needed. They can be forced to stay ON by placing a jumper in the JUMPER, CYCLE ENABLE position.

CAUTION: *The only time a jumper should be placed in JUMPER, CYCLE ENABLE position is when the limit switch flags are being adjusted or when the chair is being placed into cycle test.*

5. **Brake ON Valve LED:** This LED is marked *BRAKE ON* on the circuit board. This LED will only be lit when the user presses the BRAKE SWITCH on the membrane switch panel, on the side of the chair, with the brake in the OFF position. It will only light for one (1) second and then go out. This LED displays when the actual valve on the manifold is energized.

6. **Brake OFF Valve LED:** This LED is marked *BRAKE OFF* on the circuit board. This LED lights when the BRAKE SWITCH is depressed on the switch panel, with the brake in the ON position. It will only light for one and one-half (1 - 1/2) seconds and then go out. This LED displays when the actual valve on the manifold is energized.

7. **Seat UP Valve LED:** This LED is marked *SEAT UP* on the circuit board. The LED will light when the SEAT UP switch is depressed and the SEAT LIMIT SWITCH is not set. If the Seat Down Limit Switch is set, the LED will not light, but the LIMITS ON LED will light.

8. **Seat DOWN Valve LED:** This LED is marked *SEAT DOWN* on the circuit board. The LED will light when the SEAT DOWN switch is depressed and the SEAT LIMIT SWITCH is not set. If the Seat Down Limit Switch is set, the LED will not light, but the LIMITS ON LED will light.

9. **Back UP Valve LED:** This LED is marked *BACK UP* on the circuit board. This LED will light when the BACK UP switch is depressed and the Back Up Limit Switch is not set. If the Back Up Limit Switch is set, the LED will not light, but the LIMITS ON LED will turn on.

10. **Back Down Valve LED:** This LED is marked *BACK DOWN* on the circuit board. This LED will light when the BACK DOWN switch is depressed and the Back Down Limit Switch is not set. If the Back Down Limit Switch is set, the LED will not light, but the LIMITS ON LED will turn on.

3.3.2. Maxi Select Controller Features and Functions

Table 3-1. Maxi Select Controller Functions

Key Press and System Conditions		STATUS LEDs									
		PUMP	VDD	BACK LIGHT	Limits ON	Brake ON	Brake OFF	Seat UP	Seat DOWN	Back UP	Back DOWN
1	No Switches Pressed		✓	✓							
2	With BRAKE in the ON condition, Press and Release the BRAKE switch.	✓	✓	✓			✓				
3	With BRAKE in the OFF condition, Press and Release the BRAKE switch.		✓	✓		✓					
4	Seat in lower most position, Press and Hold the SEAT UP switch.	✓	✓	✓	✓			✓			
5	Seat in upper most position, Press and Hold the SEAT UP switch.		✓	✓	✓						
6	Seat in upper most position, Press and Hold the SEAT DOWN switch.		✓	✓	✓				✓		
7	Seat in lower most position, Press and Hold the SEAT DOWN switch.		✓	✓	✓						
8	Back in the fully vertical position, Press and hold the BACK DOWN switch.	✓	✓	✓	✓						✓
9	Back in the full Trendelenberg position, Press and Hold the BACK DOWN switch.		✓	✓	✓						
10	Back in the full Trendelenberg position, Press and Hold the BACK UP switch.	✓	✓	✓	✓					✓	
11	Cycle Jumper in, no switches pressed, and not in CYCLE TEST MODE.		✓	✓	✓						
12	Cycle Jumper in, CYCLE START switches pressed, but between cycles.		✓		✓						
✓ = Status LED is lit.											
✓ = Status LED is momentarily lit.											

NOTE: The Maxi Select Controller is Multitasking, which means a Seat Function can take place at the same time as a Back Function. If more than one function is being performed at a time, combine the conditions from the above chart to get the proper Status LED results.

3.3.3. Maxi Select Controller Set-up Procedure

Whenever the Maxi Select Controller PC Board is replaced, it will be necessary to calibrate the chair to the new board.

1. Press the **Back Up** membrane switch and hold until the chair back reaches 90° degree position.
2. Press the **Seat Down** membrane switch and hold until chair reaches its lowest position.
3. Unplug the chair power cord.
4. Move jumper from **Jumper Holder (JP4)** to **Jumper, Cycle Enable (JP3)**. See Figure 3-6.
5. Press and hold **Child Safety Switch (J8)** through Step 7.
6. Connect the chair power cord.

NOTE: Chair will start to move.

7. Release **Child Safety Switch (J8)**.
8. Press **Seat Up** membrane switch.
9. Unplug chair power cord. Wait **30** seconds and reconnect the power cord.
10. Press **Seat Back** to 75° degrees. Reference 0° degrees from base. See Figure 3-6.
11. With the seat at 75° degrees, press and hold **Memory Position 1** on the Membrane Switch Panel until the backlight on the panel blinks.
12. Press **Seat Up** until housing is 17" or more from the base and then press **Seat Back** to set back to 0° degrees (parallel to floor). See Figure 3-6.
13. With the back at 0° degrees, press and hold **Memory Position 2** on the Membrane Switch Panel until the backlight on the panel blinks.
14. Press **Auto Return**.
15. Press **Seat Back** to 55° degrees.
16. Press **Seat Up** until housing is 0° degrees (parallel to floor). The top of the housing should measure approximately 15" to the base.
17. Press and hold **Memory Position 3** on the Membrane Switch Panel until the backlight on the panel blinks.
18. Unplug chair.
19. Move **Jumper, Cycle Enable (JP3)** to **Jumper Holder (JP4)**.
20. Connect the chair power cord.
21. Test all factory presets (75°, 180°, and crash).
22. Set **Memory Positions 1, 2, and 3** to different values. Move the chair to a position and press **Memory Position 1** until the backlight on the panel blinks. Do the same with **Memory Positions 2 and 3**.
23. Unplug chair. Wait **one minute**.
24. Connect the chair power cord.
25. Test all memory positions and factory presets.
26. Test complete.

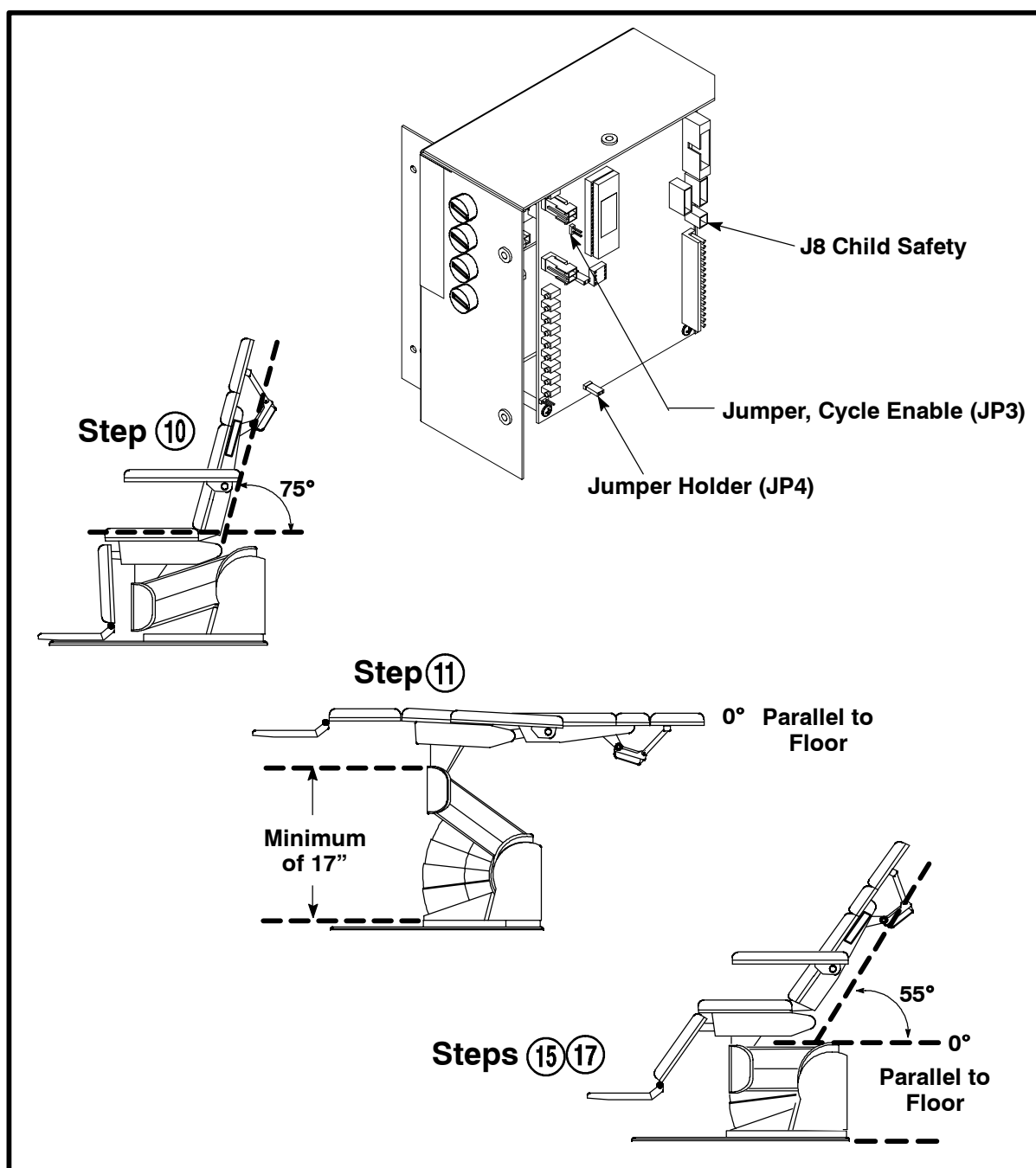


Figure 3-6. MaxiSelect Controller Set-up

3.4. Headrest Friction Adjustment

Occasionally the headrest may need to be tightened. The headrest mechanism relies on friction to maintain a secure position. To tighten this adjustment, refer to Figure 3-7 and proceed as follows.

1. Unlock the headrest and move it to the extreme upward and forward position. Leave the headrest unlocked.
2. Using a 3/16" inch hex wrench, loosen the setscrew on the bottom of the handle assembly.
3. Use a large flat-blade screwdriver, tighten the adjustment screw in the bottom of the handle for the desired friction.

CAUTION: *Do not overtighten the adjustment screw. Overtightening adjustment screw may cause pin in headrest assembly to break, removing all friction.*

4. Re-tighten the setscrew.

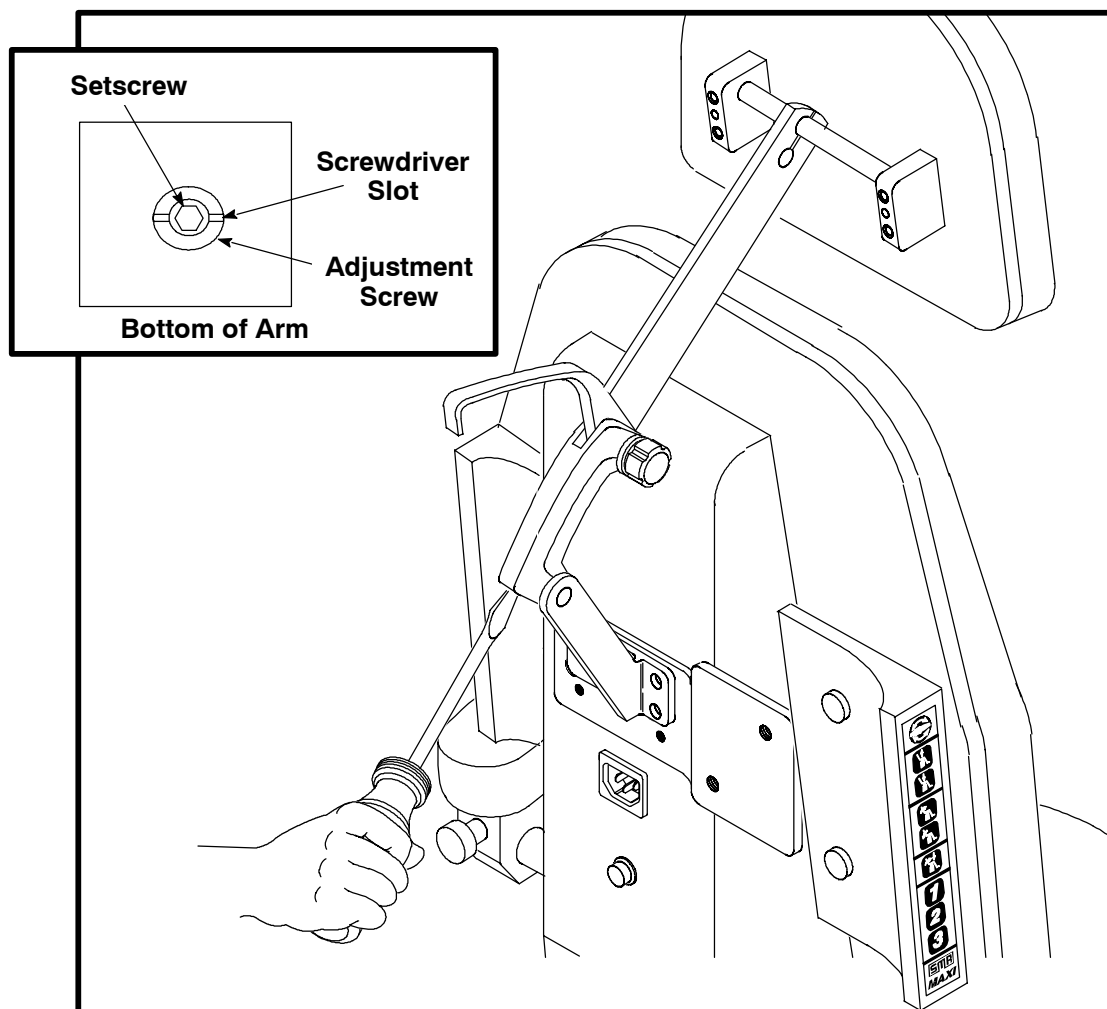


Figure 3-7. Manual Headrest Friction Adjustment

3.4.1. Headrest Positioning

To adjust the position of the Multi-Position Manual Headrest, refer to the Owner's Manual (Global Surgical part number: 110-015-017)

3.5. Lubrication

3.5.1. Removal and Installation of Covers

Tools Required:

- No. 1 Phillips Screwdriver
 - Flat Blade Screwdriver
1. Disconnect the electrical power from the chair.
 2. Remove the protective plastic caps, then use the No. 1 Phillips screwdriver to remove the six screws from the rear chair housing. Refer to Figure 3-1.
 3. Remove the rear chair housing.

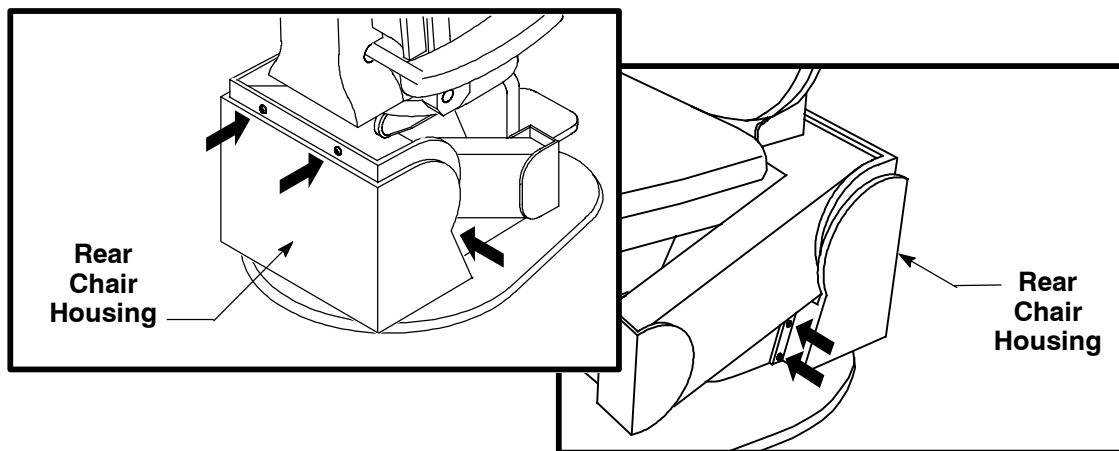


Figure 3-8. Removing the Rear Chair Housing

4. Remove the side panels
5. Disconnect and lower the Bellows exposing the chair structure.

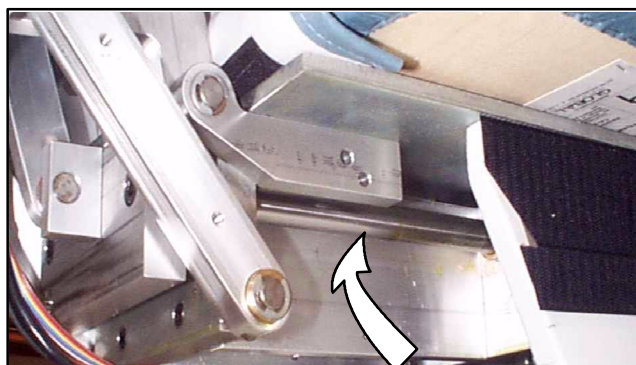
3.5.2. Lubrication of Back Up/Down Slide Shaft Assembly

To ensure that the S2700 Maxichair Select performs as expected, the Back Up/Down Slide Shaft Assemblies must be lubricated periodically.

6. Apply a very thin coating of Extreme Pressure Lube grease to the Back Up/Down Slide Shaft Assembly on both sides of the chair. Refer to Figure 3-9 on Page 12 and follow the steps below.
7. Apply the grease as indicated by the arrows.
8. Using the Membrane Switches, cycle the chair through it's various operations to ensure the Slide Shaft Assemblies are moving smoothly.
9. Reattach the Bellows.
10. Replace the Side Panels and the Rear Chair Housing.

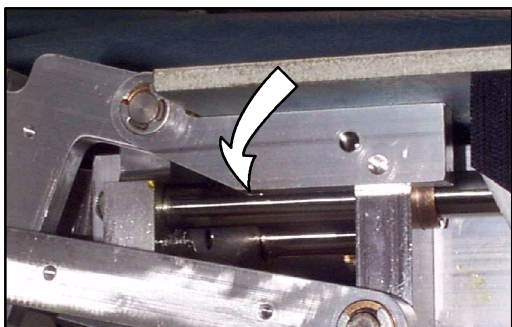
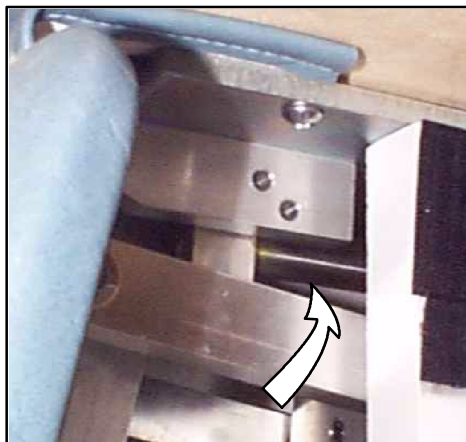


Chair Upright: Under Seat,
Left Side-Back

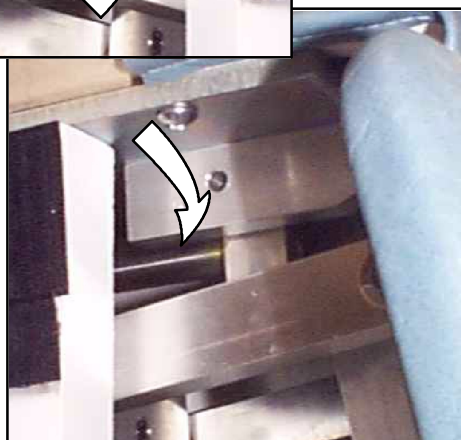


Chair Upright: Under Seat,
Right Side-Back

Under Seat, Left Front



Chair Reclined: Under Seat, Right Side-Back



Under Seat, Right Front

Apply grease to Back Up/Down Shaft as indicated by arrows.

Figure 3-9. Lubricating the Back Up/Down Slide Shaft Assemblies

Section 4. Component Removal and Replacement

4.1. Maxi Select Controller (102-001-212) PC Board Replacement

The Maxi Select Controller (102-001-212) on the SMR 2700 Maxi Chair Select can be used to service and troubleshoot the chair's electrical system. If adjustments to the chair's performance cannot be completed using the steps in the previous section, the Maxi Select Controller Printed Circuit Board may need to be replaced. Refer to Figure 3-5 and Table to proceed.

Tools Required:

- Hex Wrench
- No. 1 Phillips Screwdriver

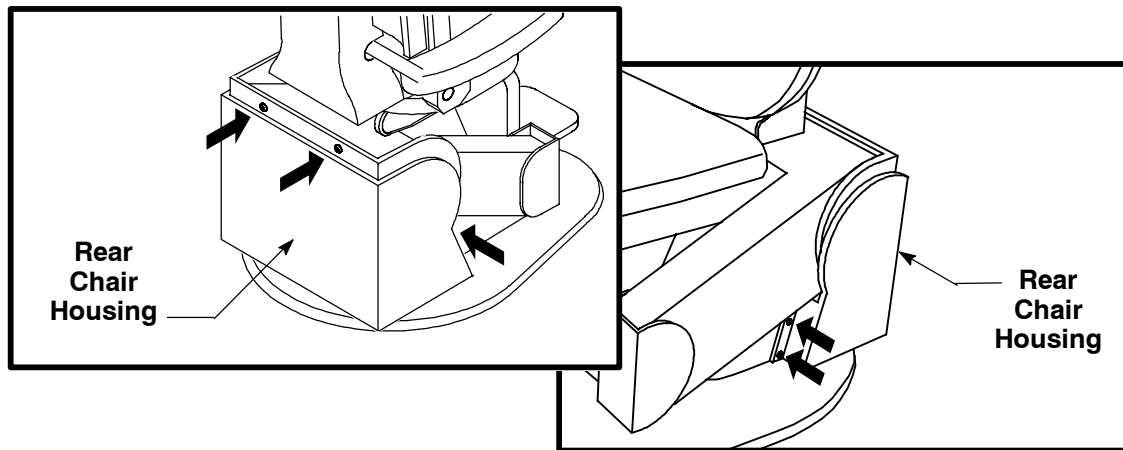


Figure 4-1. Removing the Rear Chair Housing

1. Disconnect the electrical power from the chair.
 2. Remove the protective plastic caps, then use the No. 1 Phillips screwdriver to remove the six screws from the rear chair housing. Refer to Figure 4-1.
 3. Remove the rear chair housing.
 4. Remove the cover to the Maxi Select Controller (102-001-212) by using a No. 1 Phillips screwdriver to remove the 3 screws attaching it to the controller box. See Figure 4-2.
 5. Disconnect and mark all cables attached to the PC Board.
- NOTE:** It is a good idea to mark the cables using a small piece of masking or other tape to ensure they get reconnected to the proper places on the new PC board.
6. Using a No. 1 Phillips Screwdriver, remove the four screws attaching the PC board to the Controller.
 7. Remove the PC board and set it aside. Mark the PC board as "old" or "Replaced: mm/dd/yyyy" to distinguish it from the new one. See Figure 4-2.
 8. Install the new PC board.
 9. Using a No. 1 Phillips Screwdriver, install the four screws attaching the PC board to the Controller.
 10. Reconnect all the cables to the new PC Board.
 11. Replace the cover using a No. 1 Phillips screwdriver and install the 3 screws.
 12. Refer to Section 3.3.3. Maxi Select Controller (102-001-212) Set-up Procedure.

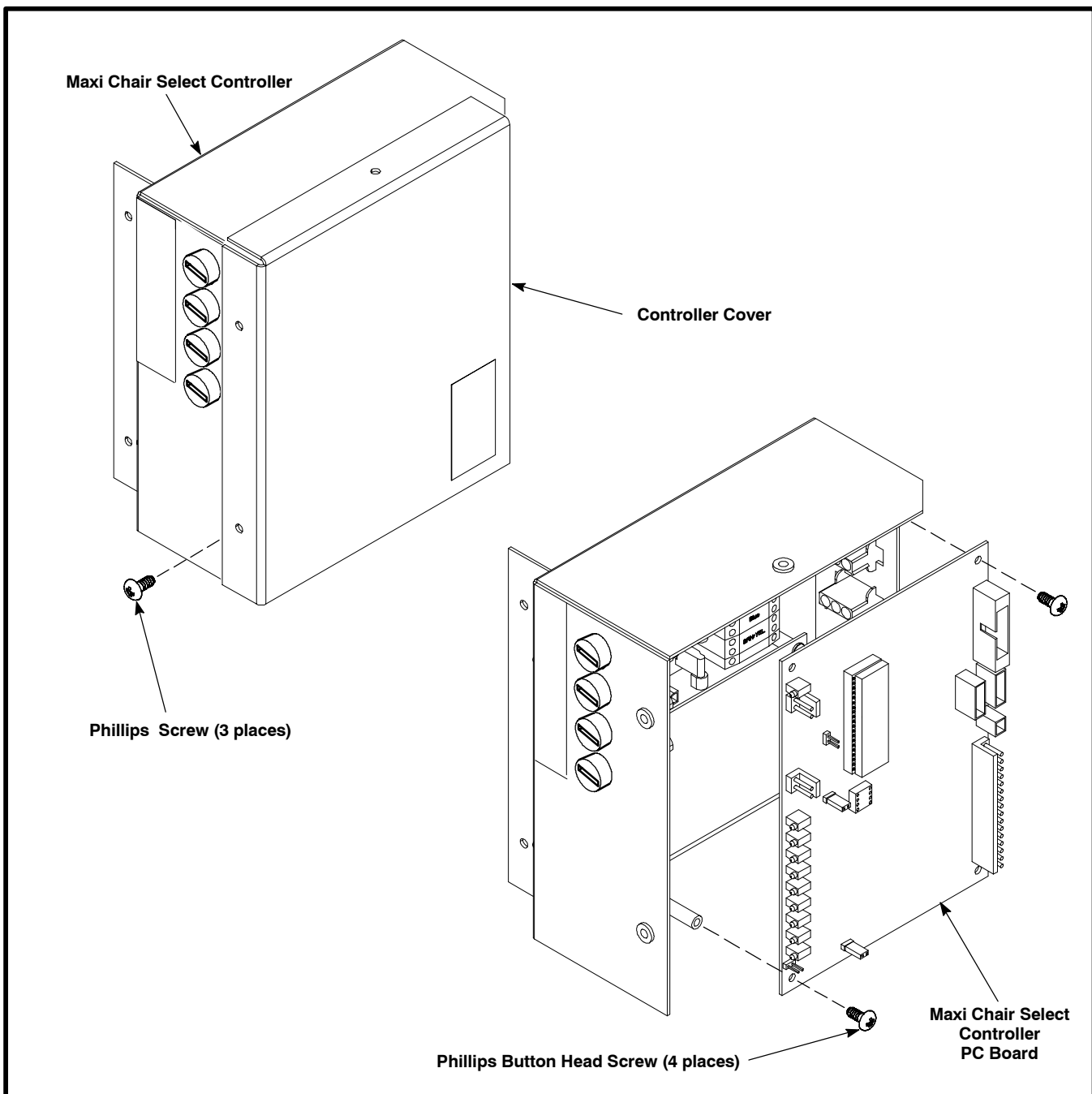


Figure 4-2. Replacing the PC Board

4.2. Armrest Shaft Replacement

There are several conditions that warrant the Armrest Shaft be replaced on the SMR 2700 Maxi Chair Select.

4.2.1. Early Production Models

The Pivot Bracket on the Armrest Shaft may break and require replacement. These early shafts were connected to the Pivot Bracket with a threaded screw. Should the screw break inside the Pivot Bracket, it may become necessary to try and drill out the remaining screw pieces or cut through the Pivot Bracket itself.

WARNING: *Upon exiting the chair, if the occupant places his or her weight on ends of both of the Armrests at the same time and presses downward to raise themselves up, the Pivot Bracket attachment screw may break.*

Retrofit Kits: A Retrofit Kit was made available by Global Surgical that repaired the broken Pivot Bracket bolts. The bolt was replaced by a 1/4" headed pin secured by an "E" clip.

CAUTION: *There have been cases where the 1/4" pin has also broken from the weight being applied to the front of both Armrests. These cases are rare but have prompted a design change to eliminate this situation.*

4.2.2. Current Production Models

NOTE: *The Pivot Bracket on current production models has been made thicker and a 5/16" pin secured by a "E" clip on both ends has been installed. These newer Pivot Brackets and Pins are also available for replacement upgrades.*

WARNING: *Upon exiting the chair, if the occupant places his or her weight on ends of both of the Armrests at the same time and presses downward to raise themselves up, the Pivot Bracket attachment pin may break.*

Should the Armrest Shaft and Pivot Bracket need replacing, refer to Figure 4-3 and proceed as follows.

Tools Required:

- Hex Wrench
- 2 Flat Blade Screwdrivers

Removal

1. Disconnect the electrical power from the chair.
2. Remove the four hex socket head screws attaching the Headrest and the optional SMR Solarlite™ to the back of the chair and set them aside.
3. Pry off the 4 plastic caps covering the screws on the back covering of the chair.
4. Remove the chair back and set it aside.
5. **Units prior to S/N 01261:** Remove the hex sockethead cap screw from the back of each of the Armrest Bracket to remove the Armrests and set them aside.
Units S/N 01261 and later: Remove the Armrest Boards from each side and set them aside. Pull the Stop Pin out of the slot of each Armrest Mounting Block and slide them off the Pivot Arm.
6. Using the membrane switches on the chair sides, raise the chair to its full height position and recline the chair to the full horizontal position.
7. Using the 2 flat blade screwdrivers, remove the spring retaining clip on the shaft on each side of the chair supporting frame.
8. Use a flat blade screwdriver to remove the upper "E" clip securing the 5/16" pin to the Pivot Arm Bracket and push the pin downward and out the bottom side.

9. Use a flat blade screwdriver to remove the L/H “E” clip from the pin securing the Pivot Bracket to the Linkage Bar.
10. Set all “E” clips and retaining clips aside as they will be needed to replace the Armrest Shaft.
11. Slide the Armrest Shaft through the right side of the chair back support and remove it.

CAUTION: *In the event that there is a burr on the Armrest Shaft or if the 5/16” pin is broken inside the Pivot Arm Bracket the shaft may not slide through the bracket and may have to be cut in order to remove it. Should this happen, use a hacksaw and cut through the shaft on both sides of the Pivot Arm Bracket and pull out from both sides.*

Installation

12. Apply a thin coat of lubricant to the new Armrest Shaft.
13. Slide the new shaft through the R/H bushing and through the chair back.
14. Place the new Pivot Arm Bracket on the shaft.
15. Line up the hole in the shaft with the hole in the Pivot Arm Bracket.
16. Slide an “E” clip on the pin and press into the bracket from the bottom side.
17. Replace the “E” clip to the top side of the pin securing Pivot Arm Bracket to the Armrest Shaft.
18. Slide the bottom pin of the Pivot Arm Bracket into the Linkage Bar and secure with an “E” clip.
19. Replace the Spring Clips on the Armrest Shaft on both sides of the chair frame.
20. Using the membrane switches on the chair sides, return the chair to the upright position.
21. Replace the Armrest Brackets on each end of the shaft and secure them with a Stop Pin.

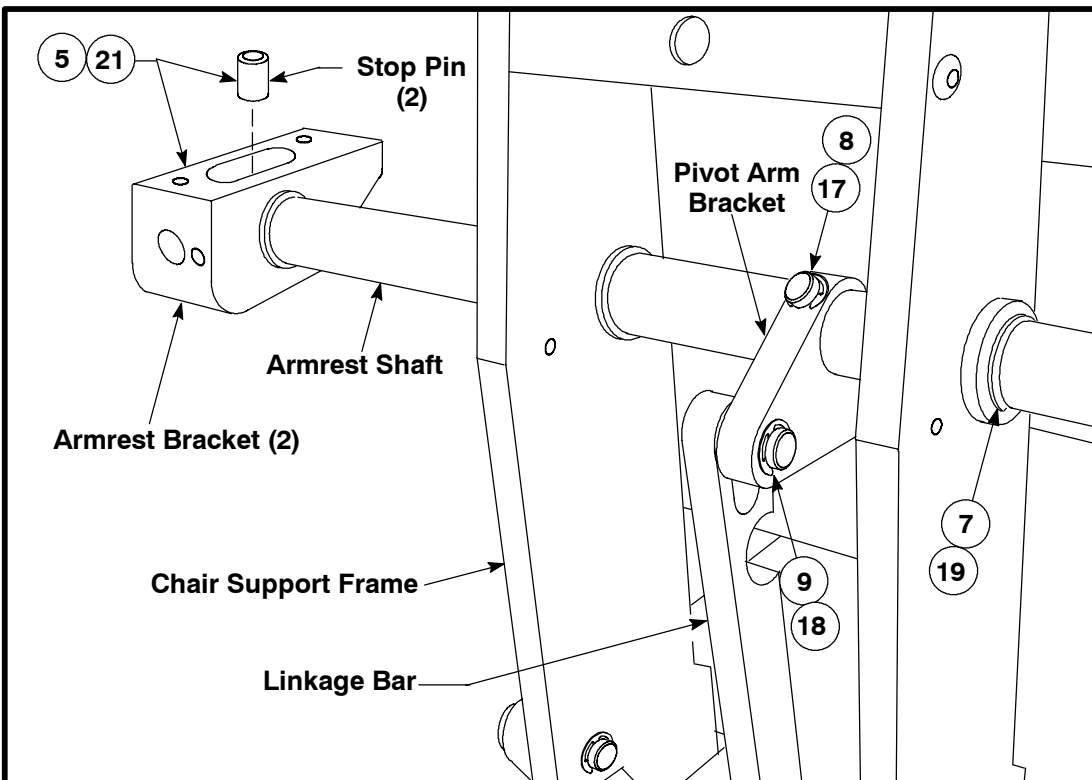


Figure 4-3. Replacement of the Armrest Shaft and Pivot Bracket

4.3. Membrane Switch Replacement

The Membrane Switch(XXX-XXX-XXX) panels located on either side of the S2700 Maxi Chair Select control the various functional operations of the chair as well as some of the diagnostics. The Membrane Switches are pressure activated. Should the switch fail to perform a desired function, they may need to be replaced. The Membrane Switches can be replaced as a unit with the Switch Bezel or can be replaced separately.

Tools Required:

- Hex Wrench
- No. 1 Phillips Screwdriver

Removal

1. Remove the four hex socket head screws attaching the Headrest and the optional Solarlite™ to the back of the chair and set them aside.
2. Pry off the 4 plastic caps covering the screws on the back covering of the chair.
3. Remove the four Phillips screws that secure the back cover to the chair.
4. Remove the chair back cover and set it aside.
5. Unplug the power cable and the fiber-optic cable from the back side of the membrane switch.
6. Using the No. 1 Phillips screwdriver, remove the 2 button head screws and remove the Membrane Switch Bezel from the chair.

Installation

a) Membrane Switch and Bezel

7. Secure the new Membrane Switch and Bezel to the chair side using a No .1 Phillips screwdriver replacing the 2 button head screws.
8. Reattach the Fiber Optic Cable to the appropriate socket.
9. Reattach the Power Supply Cable to the appropriate socket.
10. Reinstall the Chair Back with the 4 screws removed earlier.
11. Reinstall the the plastic caps covering the mounting screws.
12. Replace the Headrest and the optional Solarlite™ bracket using the 4 hex socket cap screws removed in Step 1. of the removal procedures.
13. Cycle the chair to ensure that it is operating smoothly. Make any adjustments necessary.

b) Membrane Switch Only

14. Remove the old Membrane Switch from the Bezel by peeling it off from the front of the Bezel.
15. Remove the backing strip from the adhesive pad on the new Membrane switch.
16. Attach the new Membrane Switch to the Bezel.
17. Secure the new Membrane Switch and Bezel to the chair side using a No .1 Phillips screwdriver replacing the 2 button head screws.
18. Reattach the Fiber Optic Cable to the appropriate socket.
19. Reattach the Power Supply Cable to the appropriate socket.
20. Reinstall the Chair Back with the 4 screws removed earlier.
21. Reinstall the the plastic caps covering the mounting screws.
22. Replace the Headrest and the optional SMR Solarlite™ bracket using the 4 hex socket cap screws removed in Step 1. of the removal procedures.
23. Cycle the chair to ensure that it is operating smoothly. Make any adjustments necessary.

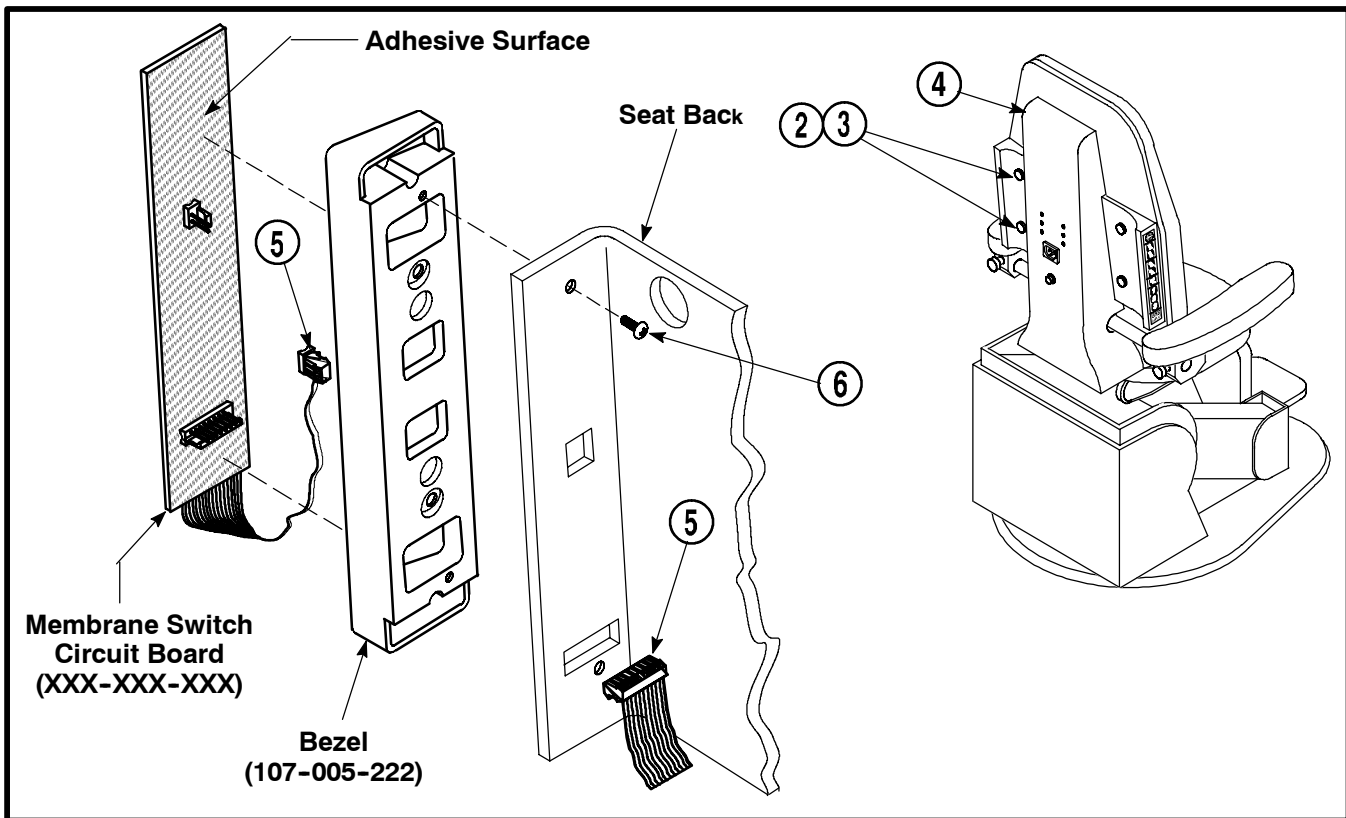


Figure 4-4. Replacing Membrane Switches

4.3.1. Replacing the Membrane Switch Ribbon Cable

The Membrane Switch panels located on either side of the S2700 Maxi Chair Select are connected to the Maxi Select Controller (102-001212) by two Ribbon Cables. The left side Ribbon Cable (XXX-XXX-XXX) is the longest. It is connected to the left side Membrane Switch and travels down to the Maxi Select Controller (102-001212). The right side Ribbon Cable (XXX-XXX-XXX) joins the left side cable with a cable connector inside the chair back. A third Ribbon Cable (XXX-XXX-XXX) connects the footpedal connector to the left side cable with a cable connector in the lower framework of the chair next to the Maxi Select Controller (102-001212). The footpedal cable must be routed up through the Cord Grommet in the center of the Emergency Stop Caliper Brake Disk(039-004-036) before it can be connected to the ribbon cable.

1. **Testing for faulty Ribbon Cable:** Visually inspect and test the Membrane Switches on each side to ensure it is functioning properly. If membrane switches are selected, and are known to be functional, and the chair doesn't respond the cause could be a ribbon cable.
 - a. Remove electrical power from the S2700 Maxi Chair Select.
 - b. Start by disconnecting the right side Ribbon Cable from the left side Ribbon Cable.
 - c. Disconnect the Left Side Ribbon Cable from the Membrane Switch Connector on the chair back. Disconnect the Footswitch Ribbon Cable where it connects to the left side Ribbon Cable in the lower framework of the chair.

NOTE: Do not completely remove the left side Ribbon Cable at this time.

- d. Disconnect the left side Ribbon Cable from the Maxi Select Controller (102-001212).
- e. Connect a new left side Ribbon Cable to the connector on the left side Membrane Switch and to the Maxi Select Controller (102-001212).

- f. Reapply electrical power to the S2700 Maxi Chair Select.
 - g. Select each button on the left side Membrane Switch and verify that the selected operation is performed by the S2700 Maxi Chair Select.
 - h. Connect the right side cable to the left side cable. Select each button on the right side Membrane Switch and verify that the selected operation is performed by the S2700 Maxi Chair Select.
 - i. If both switches work properly, proceed to replacing left Ribbon Cable.
 - j. If neither switch works, leave the cable in the chair as the problem is not the cable. If available, replace the Maxi Chair Controller PC Board. See Section 4.1.
- 2. Replacing Ribbon Cable:** Once it has been determined that the left side Ribbon Cable is faulty, it should be removed and replaced with a new one. Refer to Figure 4-5 and proceed as follows.
- a. Disconnect electrical power from the S2700 Maxi Chair Select.
 - b. Disconnect the right side Ribbon Cable from the connector on the left side Ribbon Cable.
 - c. Disconnect the left side Ribbon Cable from the Membrane Switch Panel on the chair back.
 - d. Using the photos on the right, remove the various cable clamps that attach the Ribbon Cable to the chair structure.
 - e. Disconnect the Footswitch Ribbon Cable from the connector near the Maxi Select Controller (102-001-212).
 - f. Disconnect the cable from the Maxi Select Controller.
 - g. Repeat steps b through f to install a new Ribbon Cable.
 - h. Connect electrical power to the S2700 Maxi Chair Select and cycle the chair using both left and right Membrane Switch panels and the Footswitch.

CAUTION: When installing a new Ribbon Cable Assembly, be sure not to allow the cable to become kinked or pinched by any of the cable clamps.

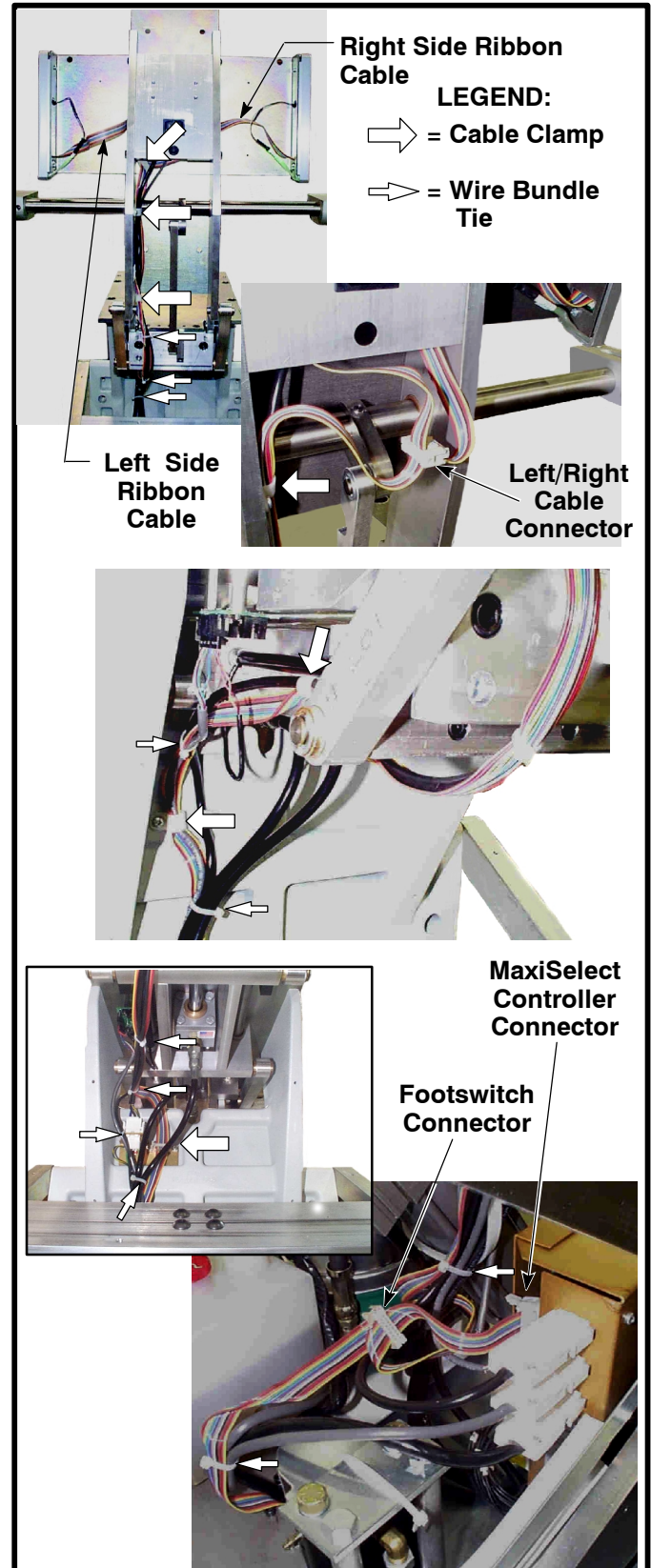


Figure 4-5. Replacing the Ribbon Cable

4.4. Lower Cylinder Replacement

Tools Required:

- 5/8" Open-end Wrench
- 3/8" Drive Ratchet
- No. 2 Phillips tip/Socket – 3/8" drive
- 1/4" Hex Wrench

The Lower Hydraulic Cylinder (102-032-031) is mounted between the chair base and the lower skeleton assembly. It's primary purpose is to raise and lower the chair. The operation of the Lower Hydraulic Cylinder should be quiet and smooth throughout its cycle. If the chair should vibrate or jerk suddenly during the travel from full upright to the lowest position or visa versa, this could signal a problem with the hydraulic cylinder.

The first step would be to check the Hydraulic Fluid Reservoir to ensure it is filled with the prescribed amount of hydraulic fluid. The Reservoir should be full when the seat is down. Next, check the hydraulic hose that supply fluid from the reservoir to the Lower Hydraulic Cylinder. If these visual checks are negative, it may suggest the Lower Hydraulic Cylinder needs replacing. To replace the hydraulic cylinder, proceed with the steps listed below and refer to Figure 4-6.

Removal

The step numbers in the below instructions will correspond with the bubble numbers in the referred illustrations.

1. Using the Membrane Switch on the sides of the chair, set the chair to its upright and lowest vertical position.
2. Disconnect the electrical power from the chair.
3. Remove the six protective plastic caps, then use the No. 2 Phillips screwdriver to remove the six screws from the front and rear chair housing. Refer to Figure 4-1.
4. Remove the front and rear plastic chair housing.
5. Use the 5/8" open-end wrench and loosen the hydraulic line to the elbow connection on the lower end of the Lower Hydraulic Cylinder (102-032-031) assembly.
6. Wrap a shop towel around the fitting and remove the hydraulic line allowing the towel to catch any excess hydraulic fluid.
7. Remove one of the two 0.093 hairpin Cotter Pins on the clevis pin holding the upper portion of the hydraulic cylinder in the Mounting Clevis.
8. Slide the pin out of the Mounting Clevis and allow the hydraulic cylinder arm to fall free.
9. Visually inspect the two mounting clevis components for any sign of cracks or wear.

NOTE: *Worn or cracked Mounting Clevis components could produce vibrations or even cause the chair to jerk unexpectedly during the operation of the hydraulic cylinder.*

10. Should the Mounting Clevis components appear to be broken or cracked, they should be replaced. Remove the four 3/8" X 16 X 1-1/4" button head socket cap screws from the top of the Main Link Tie Plate to remove the two Mounting Clevis components.
11. Replace the components as necessary. Reverse Step 10. to install new Mounting Clevis parts.
12. Remove one of the two 7/16" "E" Retaining Rings on the clevis pin holding the lower portion of the hydraulic cylinder to the Swivel Plate (102-032-028). Remove the Clevis Pin.
13. Remove the lower Hydraulic Cylinder.

Installation

1. Replace the Lower Hydraulic Cylinder assembly.
2. Replace the Clevis Pin on the lower portion of the hydraulic cylinder and secure with 7/16" "E" Retaining Ring.
3. Use the 5/8" open-end wrench and connect the hydraulic line to the elbow connection on the lower end of the Lower Hydraulic Cylinder assembly.

4. Reapply electrical power to the chair.
5. Using the Membrane Switch on the sides of the chair, slowly cycle the hydraulic cylinder until the shaft end reaches the Mounting Clevis.
6. Slide the clevis pin through the mounts and upper portion of the hydraulic cylinder and secure with the hairpin cotter pin.
7. Reinstall the rear chair housing.
8. Use the No. 1 Phillips screwdriver to install the six screws from the rear chair housing. Reinstall the protective plastic caps. Refer to Figure 4-1.
9. Reconnect the electrical power from the chair.
10. Cycle the chair to ensure that it is operating smoothly. Make any adjustments necessary.

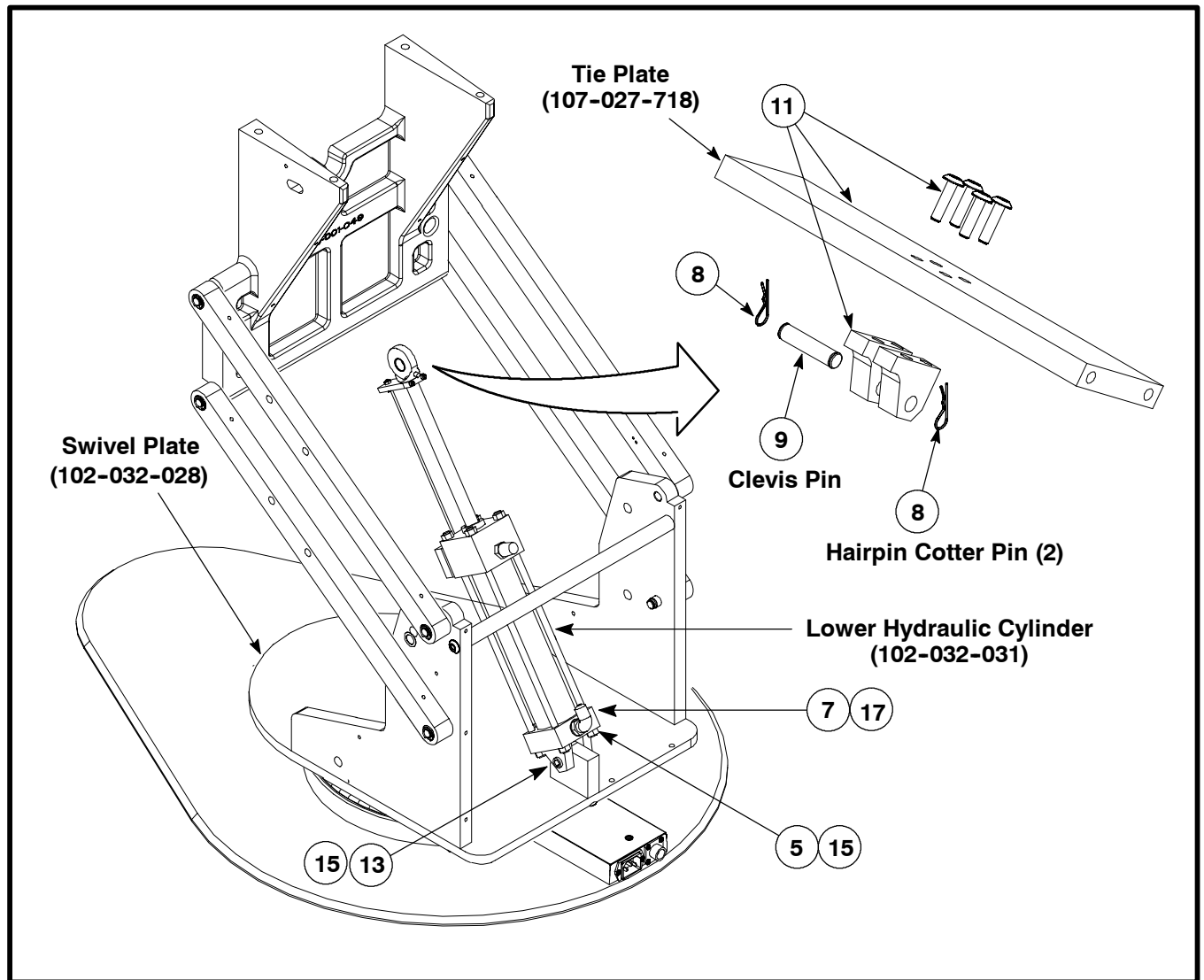


Figure 4-6. Replacing Lower Hydraulic Cylinder

4.5. Upper Hydraulic Cylinder Replacement

Tools Required:

- 1/2" Open-end Wrench
- 9/16" Open-end Wrench
- 5/8" Open-end Wrench
- 11/16" Open-end Wrench
- 3/8" Hex Wrench
- 5/32" Hex Wrench
- No. 2 Phillips Screwdriver

The Upper Hydraulic Cylinder (034-001-009) is mounted beneath the chair seat. The only function of the cylinder is to operate the chair back by controlling its movement from vertical to 10° degrees below horizontal.

Prior to cylinder replacement, check the Hydraulic Fluid Reservoir to ensure it is filled to the prescribed limit. The reservoir should be near full when the seat is in the full down position. Listen to the pump motor when moving the chair back with the Membrane Switches. The operation of the Upper Hydraulic Cylinder should be quiet and smooth throughout its cycle. Any vibration or shuddering during the cycle may indicate problems with the Upper Hydraulic cylinder. Check for visible leaks in any of the hydraulic lines to the Upper Hydraulic Cylinder. If no leaks are found, replacement of the Upper Hydraulic cylinder may be necessary. To replace the Upper Hydraulic cylinder, proceed with steps listed below.

Removal

The step numbers in the below instructions will correspond with the bubble numbers in the referred illustrations.

1. Using the Membrane Switch on the sides of the chair, set the chair back to horizontal and raise the chair to its most vertical height.
2. Disconnect the electrical power from the chair.
3. Remove the six protective plastic caps, then use the No. 2 Phillips screwdriver to remove the six screws from the front and rear chair housing. Refer to Figure 4-7.
4. Remove the plastic front and rear chair housing.
5. Remove the four protective caps, then use the No.2 Phillips screwdriver to remove the four screws from the upper rear chair housing. Remove the upper rear chair housing.
6. Using a No. 2 Phillips screwdriver remove the four screws and the plastic shroud.
7. Using a No. 2 Phillips screwdriver remove the two screws and the two bolsters.
8. Using a No. 2 Phillips screwdriver remove the four screws and the plastic shroud.
9. Using a No. 2 Phillips screwdriver remove the two screws and the seat cushion.
10. Use the 11/16" open-end wrench, loosen the hydraulic fitting on the rear side of the Upper Hydraulic cylinder. See Figure 4-8. Place a shop towel below the fitting to catch any fluid that may leak as the fitting is loosened.
11. Remove the hydraulic line.
12. Using the 5/8" open-end wrench along with a 1/2" open-end wrench, loosen the hydraulic fitting on the front side of the Upper Hydraulic cylinder. See Figure 4-9. Place a shop towel and a cup below the fitting to catch any fluid that may leak as the fitting is loosened.
13. Remove the hydraulic line.
14. Using the 11/16" open-end wrench, remove the fitting from the Upper Hydraulic Cylinder.
15. Using a 3/8" hex wrench, remove the socket head cap screw from the end of the cylinder rod. See Figure 4-10.

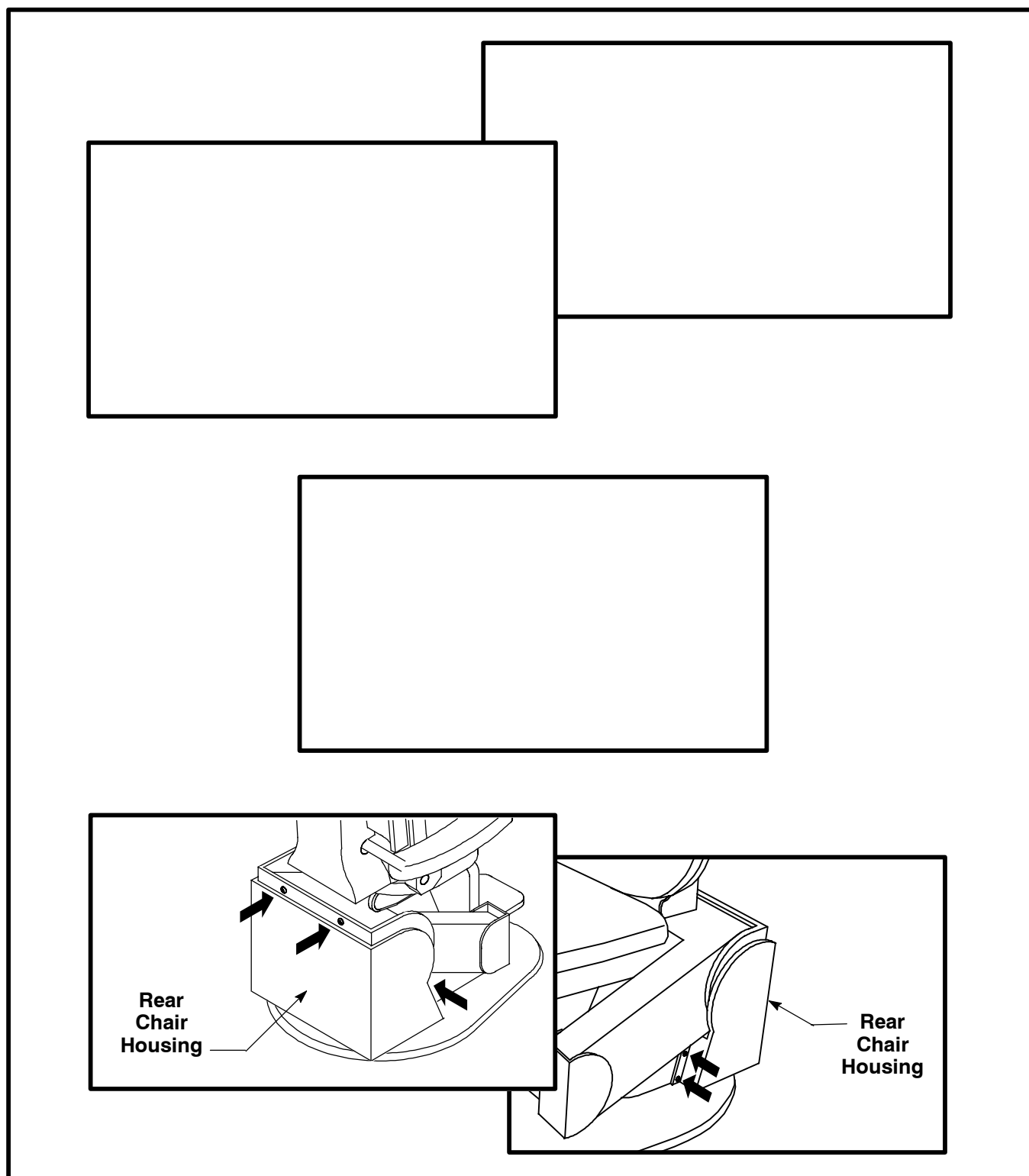


Figure 4-7. Removing Plastic Shrouds

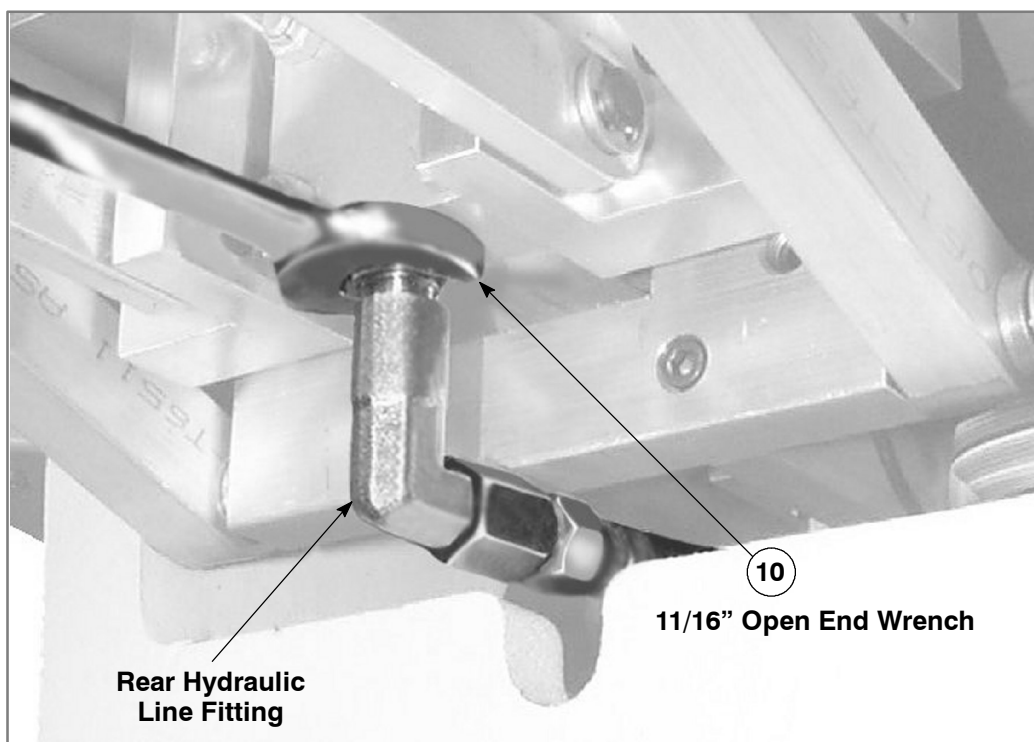


Figure 4-8. Removing the Rear Hydraulic Line on the Upper Hydraulic Cylinder

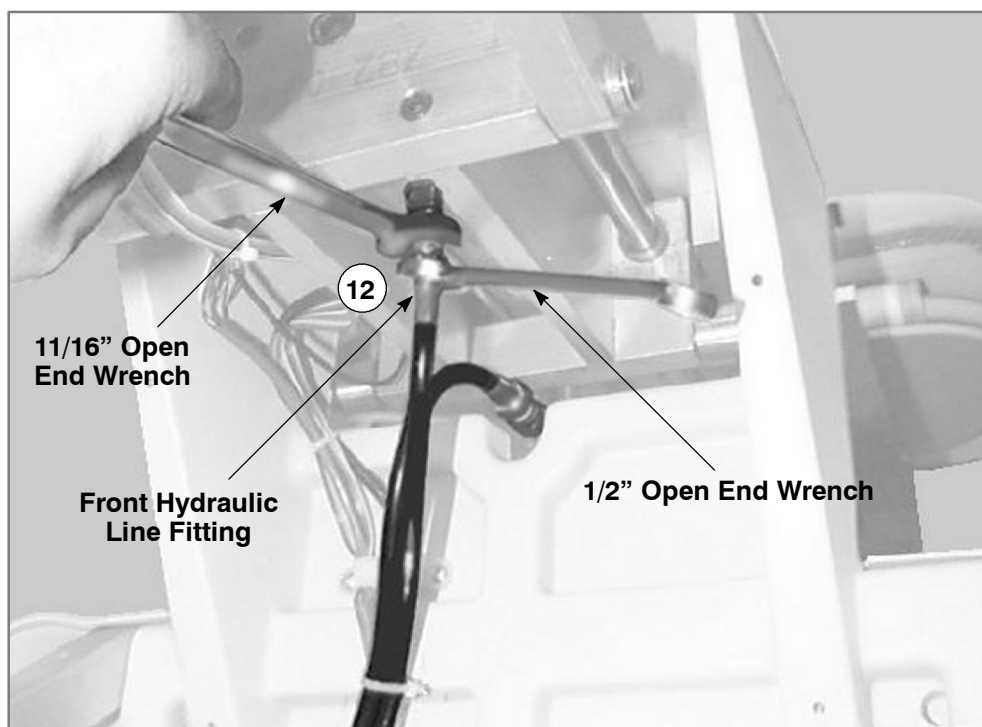


Figure 4-9. Removing the Front Hydraulic Line on the Upper Hydraulic Cylinder



Figure 4-10. Removing the Socket Head Cap Screw from Cylinder Rod

16. Using the 5/32" hex wrench, remove the four socket head cap screws that attach the Upper Hydraulic Cylinder to the chair frame. See Figure 4-11.

CAUTION: As the socket head cap screws that attach the Upper Hydraulic Cylinder are being removed, it is necessary to support the cylinder from the bottom to prevent it from prematurely falling and possibly injuring personnel or damaging chair components.

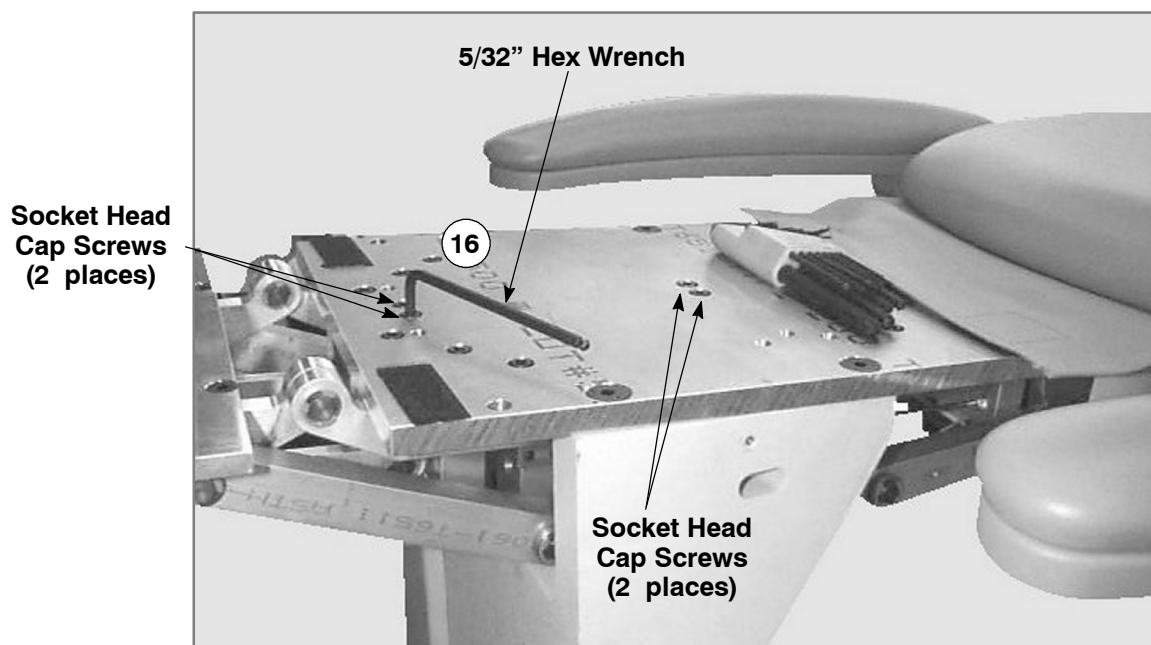


Figure 4-11. Removing the Upper Hydraulic Cylinder

17. Remove the Upper Hydraulic Cylinder.

4.6. Hydraulic Power Pack Unit Assembly Replacement

Tools Required:

- 5/8" Open-end Wrench
- 1/4" Hex Wrench

Should adjustments to the Hydraulic Manifold fail to correct problems with the movement of the SMR 2700 Maxi Chair Select, it may be necessary to replace the Hydraulic Power Pack Unit Assembly (102-025-026). Refer to Figure 4-12 and proceed as follows:

Removal

The step numbers in the below instructions will correspond with the bubble numbers in the referred illustrations.

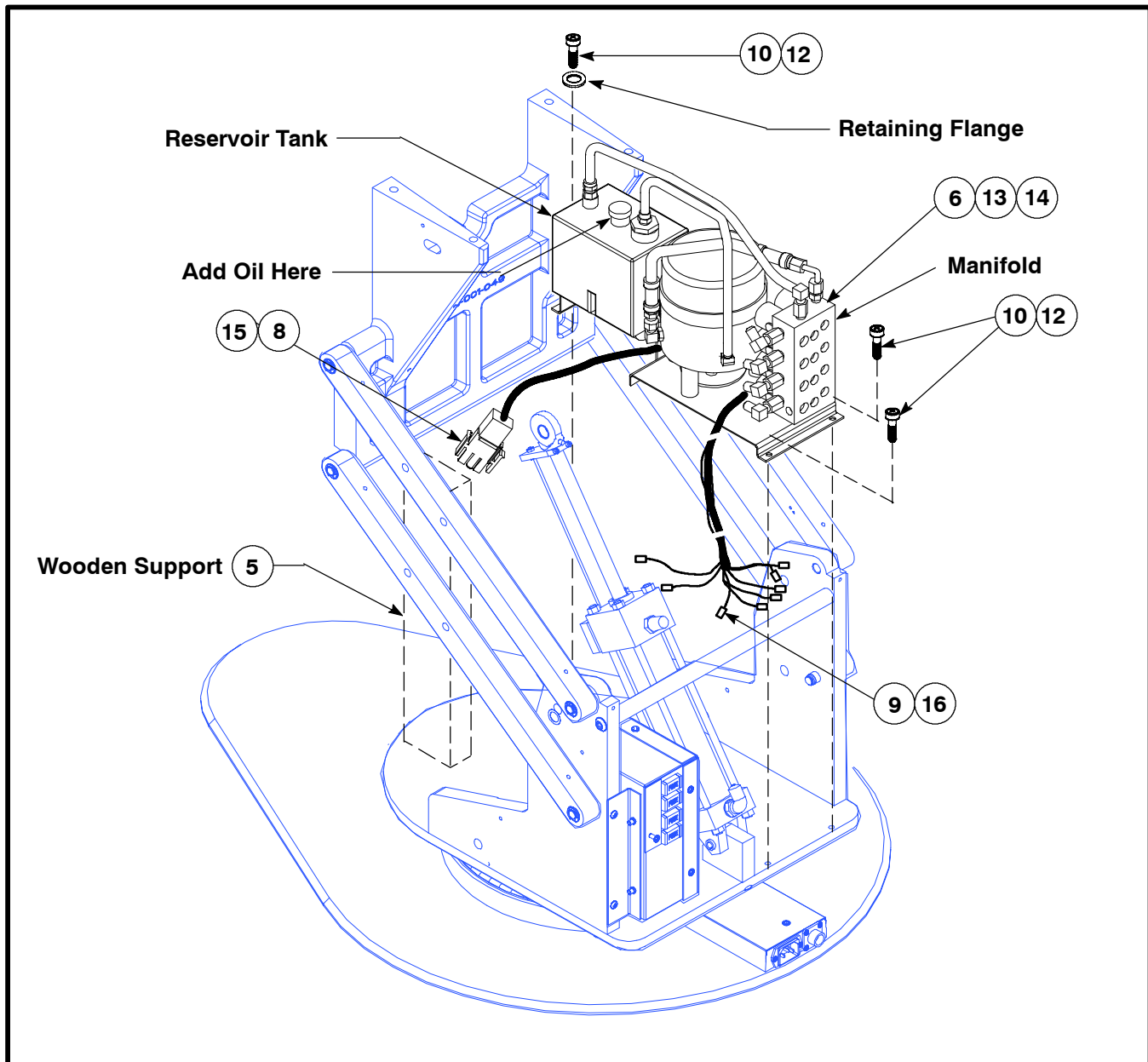


Figure 4-12. Replacing the Hydraulic Power Pack Unit Assembly

1. Using the Membrane Switch on the sides of the chair, set the chair to its lowest vertical position. This will allow the hydraulic fluid from the upper and lower cylinders to return to the reservoir.
2. Disconnect the electrical power from the chair.
3. Remove the protective plastic caps, then use the No. 1 Phillips screwdriver to remove the six screws from the rear chair housing. Refer to Figure 4-1.
4. Remove the rear chair housing.
5. Support the front of the chair frame with a 2" X 4" wooden block to prevent the chair from falling to a lower height when the Manifold Assembly is disconnected.
6. Use the 5/8" open-end wrench and loosen the four hydraulic lines to the elbow connections on the left side of the Manifold Assembly. Mark the hydraulic lines so they can be reconnected in the same positions on the new manifold.
7. Wrap a shop towel around the fittings and remove the hydraulic lines allowing the towel to catch any excess hydraulic fluid.
8. Disconnect the Power Cable from the MaxiSelect Controller.
9. Disconnect eight electrical leads from the Manifold to the MaxiSelect Controller.
10. Using the 1/4" hex wrench, remove the three 1/4"-20 X1/2" socket head cap screws and lift the manifold and reservoir assembly away from chair and set it aside.

NOTE: Use care when removing the single screw on the front of the Manifold Assembly. There is a washer (Retaining Flange 107-037-223) included with the screw which may fall off as the screw is removed.

Installation

11. Place the new Manifold Assembly onto the chair base and line up the three holes on the bracket with the holes on the chair Swivel Plate Assembly.
 12. Install the three 1/4"-20 X1/2" socket head cap screws and install the manifold and reservoir assembly to the chair Swivel Plate Assembly. Using the 1/4" hex wrench, tighten the socket head cap screws securely.
- NOTE:** Use care when installing the single screw on the front of the Manifold Assembly. There is a washer (Retaining Flange 107-037-223) included with the screw which is used because of the slotted hole on the front bracket.
13. Install the four hydraulic lines to the elbow connections on the left side of the Manifold Assembly. Tighten the nuts on the hydraulic lines by hand as tight as possible.
 14. Use the 5/8" open-end wrench and securely tighten the hydraulics fittings to the Manifold Assembly.
 15. Reconnect the Power Cable from the MaxiSelect Controller.
 16. Reconnect eight electrical leads from the Manifold to the MaxiSelect Controller.
 17. Reinstall the Chair Back with the 4 screws removed earlier.
 18. Replace the Headrest and the optional SMR Solarlite™ bracket using the 4 hex socket cap screws removed in Step 1. of the removal procedures.
 19. Cycle the chair to ensure that it is operating smoothly. Make any adjustments necessary.

4.7. Emergency Stop Caliper Brake Replacement

Tools Required:

- 5/8" Open-end Wrench
- 3/8" Ratchet with 5/8" Socket
- 1/4" Hex Wrench
- Pin Extractor
- No. 1 Phillips Screwdriver

Should the SMR 2700 Maxi Chair Select fail to stop its rotation when the brake is applied, it may be necessary to replace the Emergency Stop Caliper Brake (034-001-010). Refer to Figure 4-13 and proceed as follows:

Removal

The step numbers in the below instructions will correspond with the bubble numbers in the referred illustrations.

1. Using the Membrane Switch on the sides of the chair, set the chair to its lowest vertical position.
2. Disconnect the electrical power from the chair.
3. Remove the protective plastic caps, then use the No. 1 Phillips screwdriver to remove the six screws from the rear chair housing. Refer to Figure 4-1.
4. Remove the rear chair housing.
5. Use the 5/8" open-end wrench and remove the hydraulic line from the elbow connection on the brake assembly.
6. Remove the Power Cable Connector from the rear of the Maxi Chair Select Controller. The Power Cable Connector is the bottom of 3 similar plugs on the Maxi Chair Select Controller.
7. Remove the Ribbon Cable connector from the rear of the Maxi Chair Select Controller. The Ribbon Cable Connector is **not** pictured in Figure 4-13.
8. Use the 1/4" Hex Wrench to remove the eight 10-32 X 1/2" hex socket-head cap screws that attach the Brake Disk to the Swivel Hub.
9. Use the 5/8" open-end wrench and remove the two 3/8" X 6" bolts and two Brake Mounting Tubes and two 1/8" spacers that attach the Emergency Stop Caliper Brake Assembly to the Chair Swivel Plate.

Installation

1. Using the two 3/8" X 6" bolts and Brake Mounting tubes install the new Emergency Stop Caliper Brake Assembly to the Chair Swivel Plate.
2. Use the 5/8" open-end wrench and tighten the two 3/8" X 6" bolts securely.
3. Push the Ribbon Cable and the Power Cord through the grommet on the caliper brake. See Section 4.7.1. to reinstall the plug on the Power Cord.
4. Use the 1/4" Hex Wrench to install the eight 10-32 X 1/2" hex socket-head cap screws that attach the Brake Disk to the Swivel Hub.
5. Connect the Power Cable Connector and the Ribbon Cable to the Maxi Chair Select Controller.
6. Reinstall the chair housing components and chair back. See Steps 3. and 4. above.

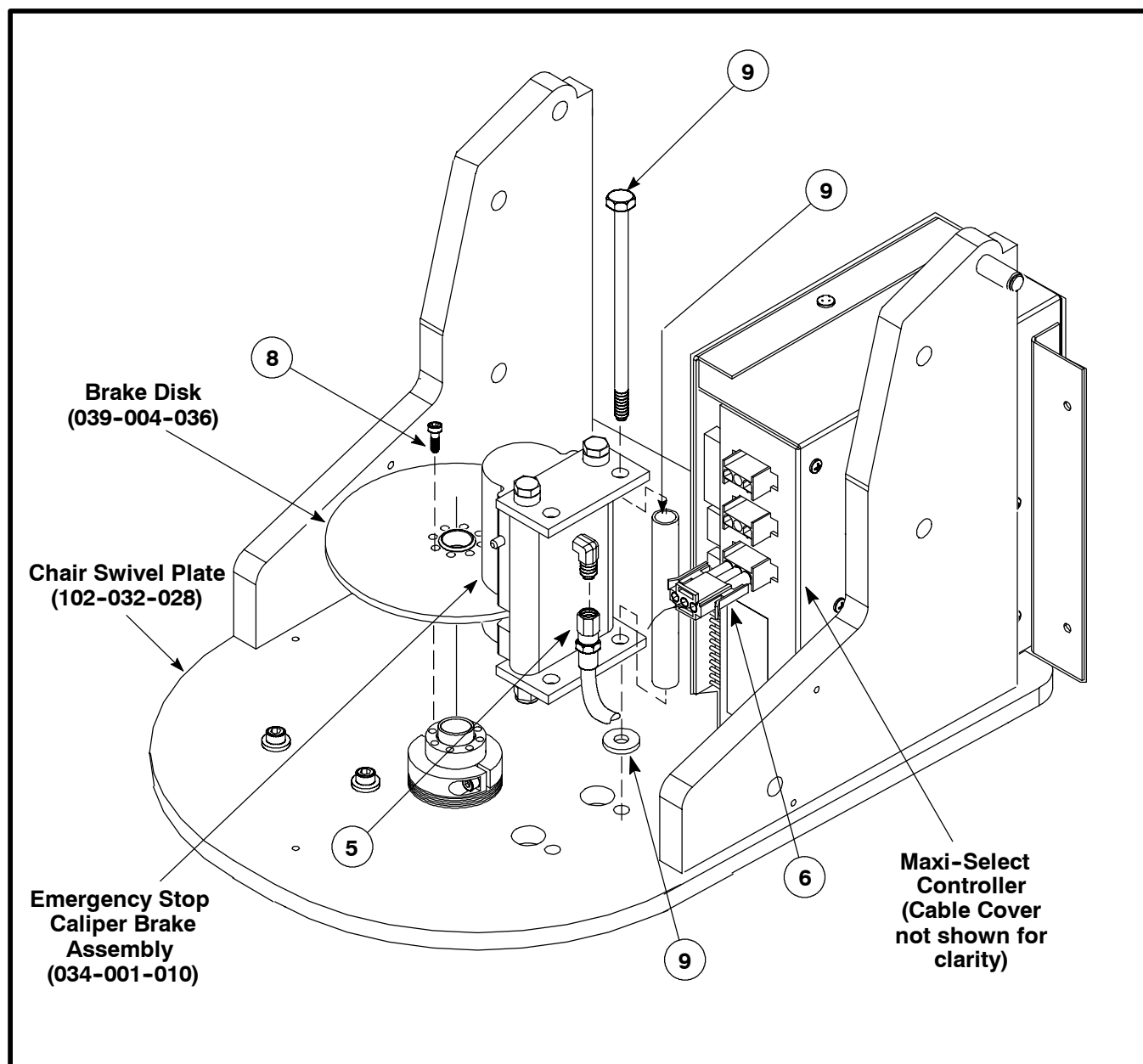


Figure 4-13. Replacing Emergency Stop Caliper Brake

4.7.1. Removal/Replacement of Power Cord Cable

NOTE: In order to remove the Emergency Stop Caliper Brake Assembly both the Ribbon Wire Connector and the Power Cord must be pressed through the Cord Grommet in the Brake Disk. The Ribbon Wire Connector can be manipulated by turning the connector along side of the ribbon cable and pressed downward through the grommet. The Power Cord Plug, however, will not fit through the grommet and must be removed from the Power Cord in order to complete this procedure. A Pin Extractor will be required to remove the Power Cord Plug from the the power cord.

1. Using the Pin Extractor, insert it into each of the three sockets on the Power Cord Plug. Push the Pin Extractor in the open end of the plug until it presses against the tabs on each wire end. Press the sliding handle on the Pin Extractor to push the wire end out of the Power Cord Plug. See Figure 4-14.
2. Remove the Emergency Stop Caliper Brake Assembly and set it aside.

3. Place the new Emergency Stop Caliper Brake Assembly on the Chair Swivel Plate and repeat **Steps 5 through 10 in reverse order**.
4. The Ribbon Cable and the Power Cord must be pushed back up through the Grommet in the Brake Disk.
5. Before reconnecting the Power Plug and The Ribbon Connector to the back of the Maxi Chair Controller, the plug must be reattached to the power cord.
6. Visually examine the Power Cord Plug. Look for a small, flat key running along the top of the plug. See Figure 4-15.

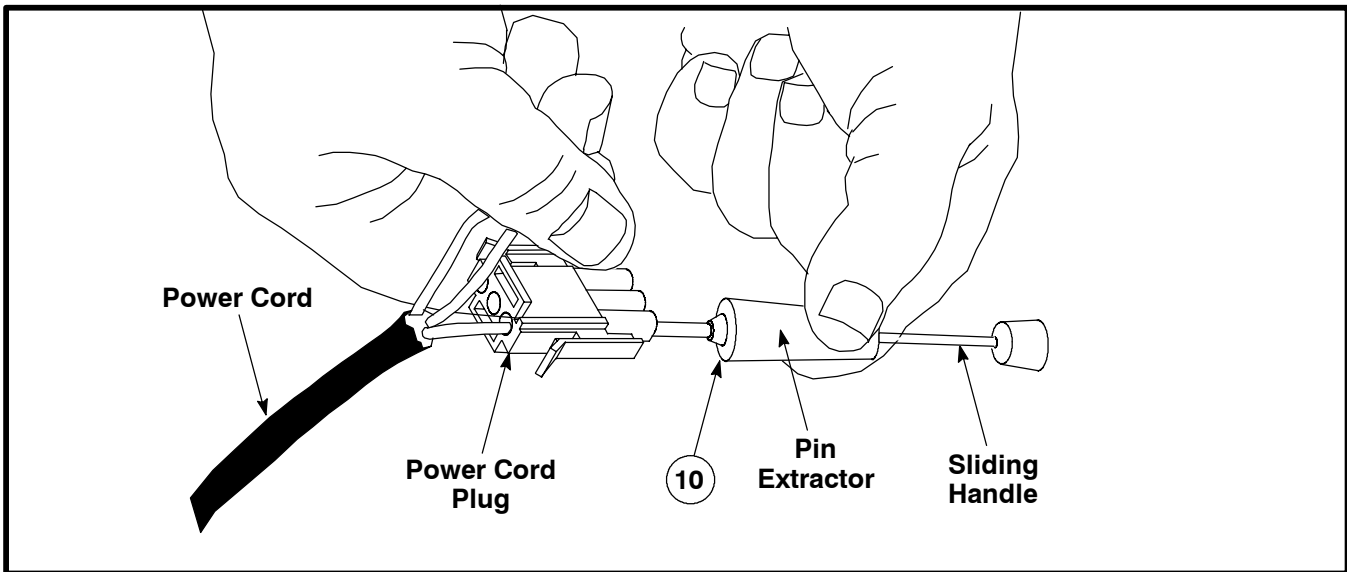


Figure 4-14. Removing the Power Cord Plug from the Power Cord

7. Using the key as a guide insert the three wires from the power cord into the plug. The **green wire** goes into the receptacle below the key. The **brown wire** goes into the center receptacle and the **blue wire** goes into the remaining receptacle. See Figure 4-16.
8. Connect the Ribbon Cable Connector and the Power Cord Plug to the receptacles on the rear of Maxi Chair Controller.
9. Apply electrical power to the chair and cycle test the chair to see if new Emergency Stop Caliper Brake operates per specifications.

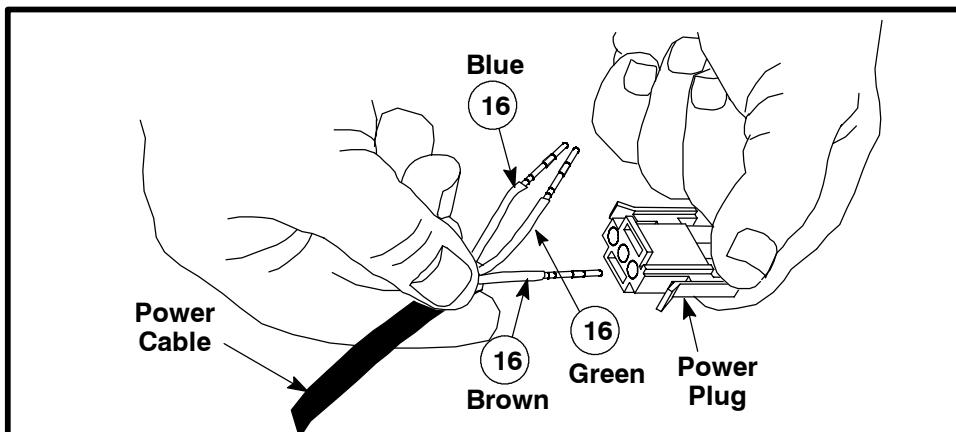


Figure 4-15. Power Cord Plug Keyway

**Power Cable Plug
(XXX-XXX-XXX)**

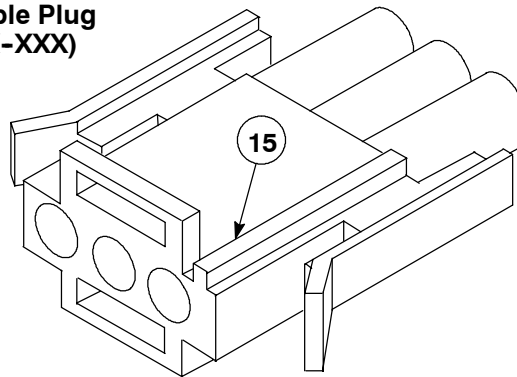


Figure 4-16. Rewiring Power Cable Plug

4.8. Installing the Maxi Select Controller (102-001-212) Cable Cover

A Protective Cover (XXX-XXX-XXX) has been designed to fit over the Cable Connectors on the back side of the Maxi Select Controller (102-001-212). The purpose of the cover is to provide added protection to the cable connectors to prevent damage or accidental unplugging.

Tools Required:

- No. 1 Phillips Screwdriver

Refer to Figure 4-17 and proceed as follows to install the Protective. Cover

1. Disconnect Electrical Power to the S2700 Maxi Chair.
2. Remove the protective plastic caps, then use the No. 1 Phillips screwdriver to remove the six screws from the rear chair housing. Refer to Figure 4-1.
3. Remove the rear chair housing.
4. Remove the two No. 1 Phillips head screws from the side of controller opposite to where the Ribbon Cable Assemblies attach. See Figure 4-17.
5. Slide the Protective Cover carefully over the cables at the rear of the controller.
6. Install the Protective Cover, aligning it with the two holes on the side of the Controller, and attaching it with the two Phillips screws removed in Step 4.
7. Reinstall the chair housing components and chair back. See Steps 2. and 3. above.
8. Reconnect Electrical Power to the S2700 Maxi Chair.

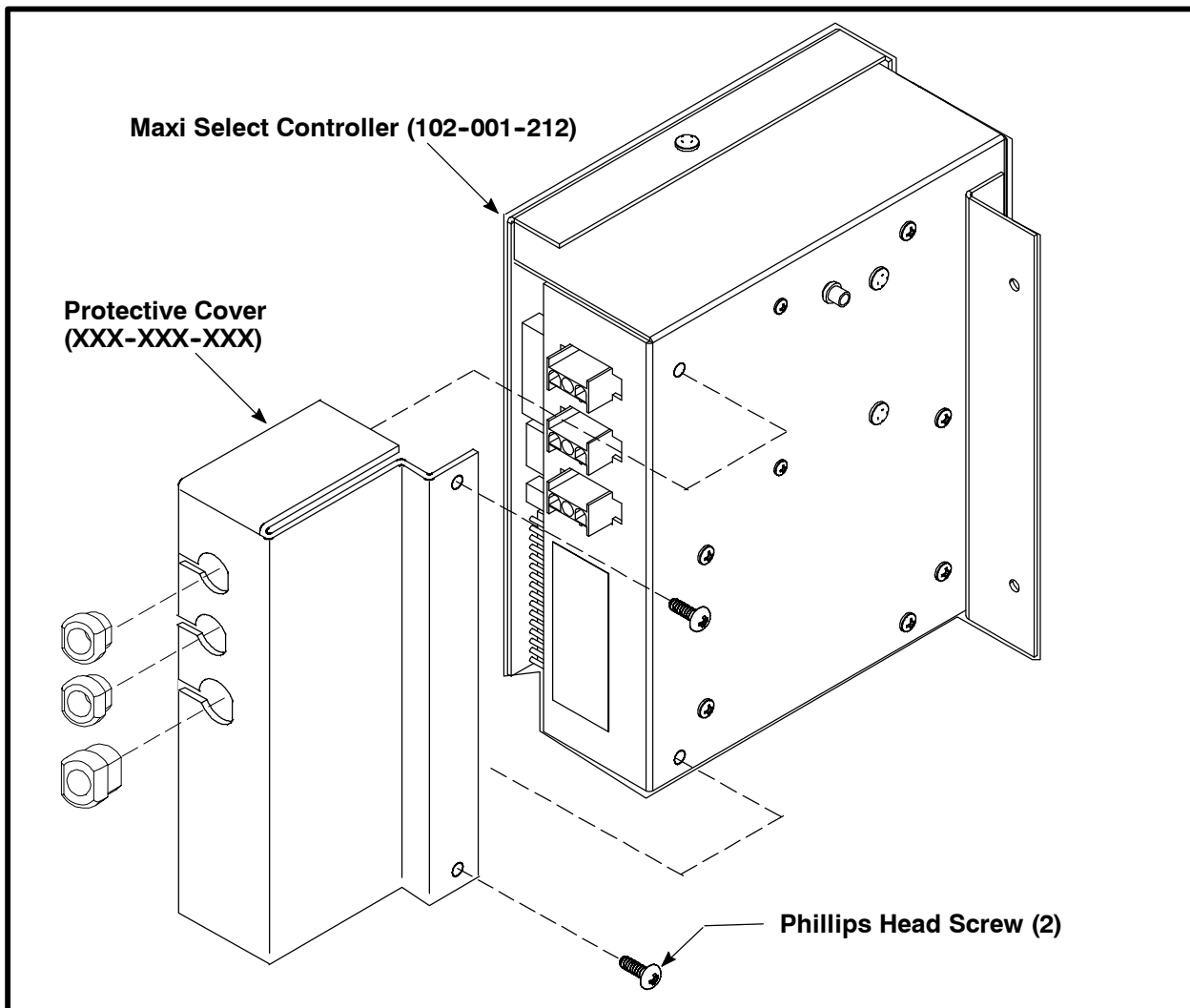


Figure 4-17. Installing Protective Cover on Maxi Select Controller (102-001-212)

4.9. Calfrest Replacement

Should the Calfrest (XXX-XXX-XXX) on the S2700 Maxi Chair Select Select become worn or damaged in such a way that it needs replacement, Refer to Figure 4-18 and follow the steps below.

Tools Required:

- No. 1 Phillips Screwdriver

Removal of Old Calfrest:

1. Using the Membrane Switches located on the side of S2700 Maxi Chair Select Select or the Footpedal, raise the chair at least 6" from floor and bring the chair to the maximum reclined position (Trendelenberg Position).
2. Using the No. 1 Phillips Screwdriver, remove the two screws beneath the Chair Seat to remove the Seat Cushion. See Figure 4-18.
3. Using the No. 1 Phillips Screwdriver, remove the three screws beneath the Calfrest to remove it from the chair assembly. See Figure 4-18.
4. Complete the removal by lifting upward on each side of the Calfrest Flap unlocking the Velcro patch on each side. See Figure 4-18.

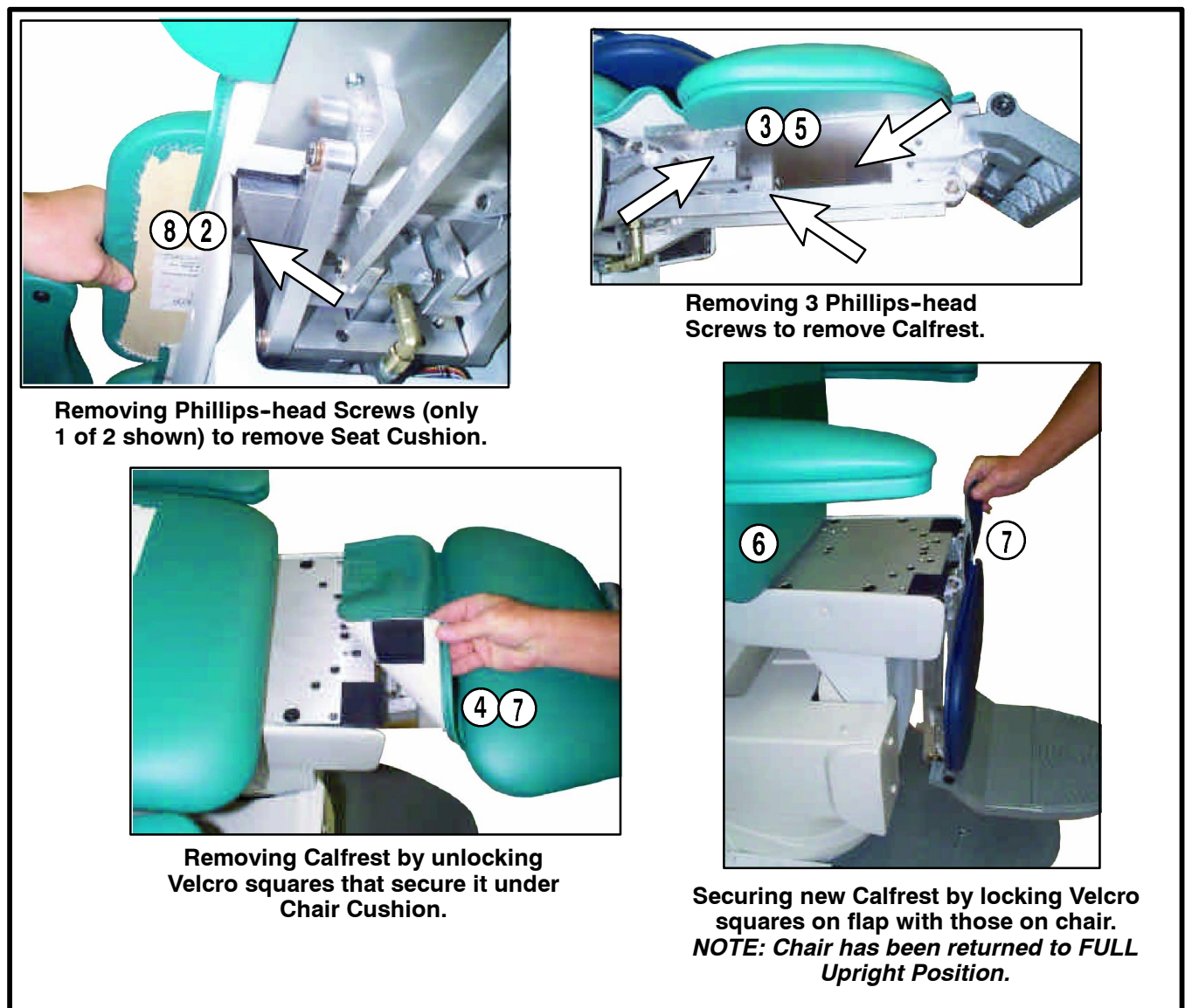


Figure 4-18. Removal and Installation of Calfrest

Installation of New Calfrest:

5. Using the No. 1 Phillips Screwdriver, replace the three screws beneath the Calfrest to secure it to the chair assembly. See Figure 4-18.
6. Using the Membrane Switches located on the side of S2700 Maxi Chair Select Select or the Footpedal bring the chair to the full upright position.
7. Complete the installation pressing downward on the flaps on each side of the Calfrest Flap locking the Velcro patch on each side in place. See Figure 4-18.
8. Using Membrane Switches, bring chair to fully reclined position.
9. Using the No. 1 Phillips Screwdriver, replace the two screws beneath the Chair Seat to reinstall the Seat Cushion. See Figure 4-18.

4.10. Securing Side Panel

On SMR 2700 Maxi Chair Select models prior to serial numbers 01125 and before, it may be necessary to add a screw to secure the side panel on the chairs.

Tools Required:

- 9/64" diameter Drill Bit
- 3/16" diameter Drill bit
- Portable Drill
- #8-32 Hand Tap and Handle
- Tapping Oil (3-in-1 Oil or equivalent)
- (2) #8-32 X 1" Phillips Pan Head Screw (Global p/n: 021-521-075)
- (2) #8 Snap Cover Bottom (Global p/n: 018-028-040)
- (2) #8 Snap Cover Cap (Global p/n: 018-028-041)

Should the Side Panel on the S2700 Maxi Chair Select Select (serial numbers 01125 and before) become loose, Refer to Figure 4-19 and follow the steps below.

Securing the Side Panel

1. Using the Membrane Switches, bring the chair back to its full upright position.
2. Hold the Side Panel "up" against the Seat Bottom and "forward" against the Calf Rest.
3. Using a portable drill, drill a 9/64" hole through the Side Panel and Chair Seat Support Casting approximately in the center of the Side Panel. See Figure 4-19.
4. Hold the Side Panel away from the chair and use the portable drill to enlarge the previous 9/16" hole to 3/16."
5. Using the #8-32 Tap and Handle, thread the hole in the Chair Seat Support Casting.

CAUTION: *Tap Lubricant (3-in-1 Oil or equivalent) is absolutely necessary in this procedure to prevent the tap from breaking off in the casting.*

6. Use the standard tapping practice of alternating 1 to 1-1/2 turns forward then 1/2 turn backwards to avoid breaking the Hand Tap. Repeat this procedure until the hole is threaded 5/8" deep.
7. Install the #8 Snap Cover Bottom using the #8-32 X 1" Phillips Pan Head Screw. Thread the screw into the previously drilled and tapped hole in the Chair Seat Support Casting.
8. Push the Snap Cover over the Snap Bottom.
9. Repeat this procedure for the other side of the chair.

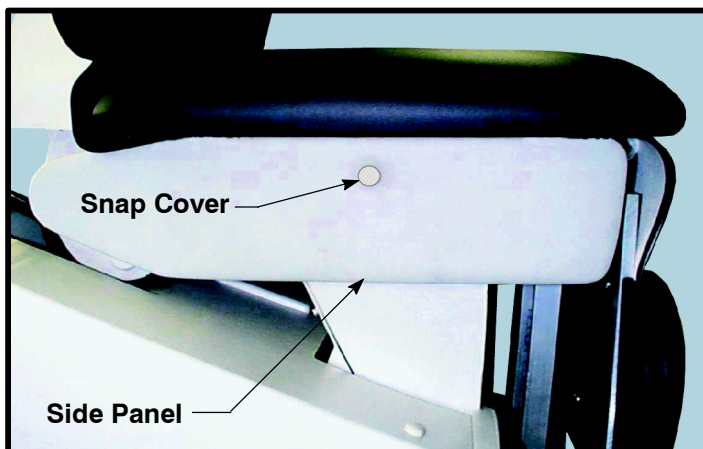
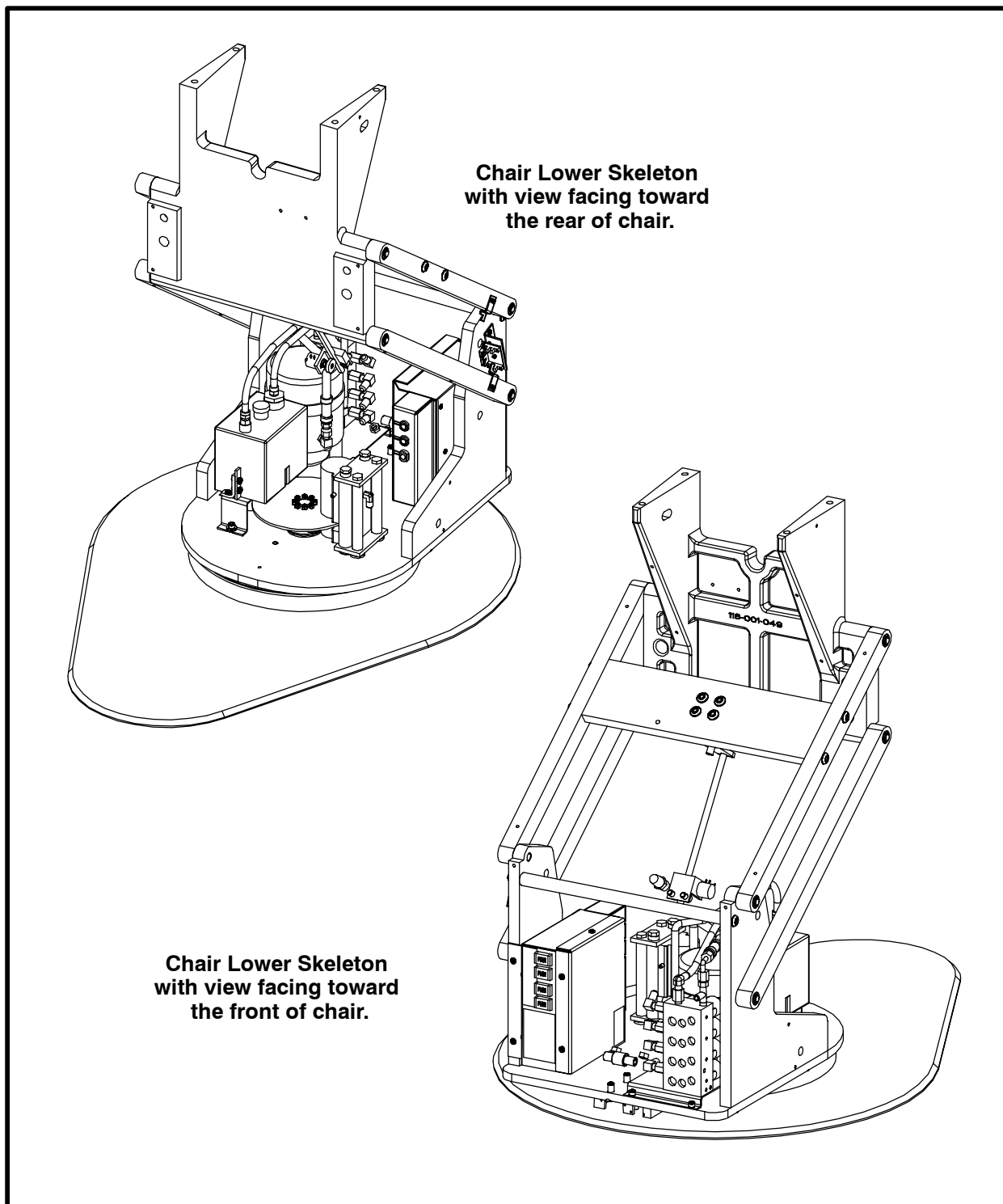


Figure 4-19. Securing Chair Side Panels

Section 5. Illustrated Parts Diagrams

5.1. Lower Skeleton Exploded Parts



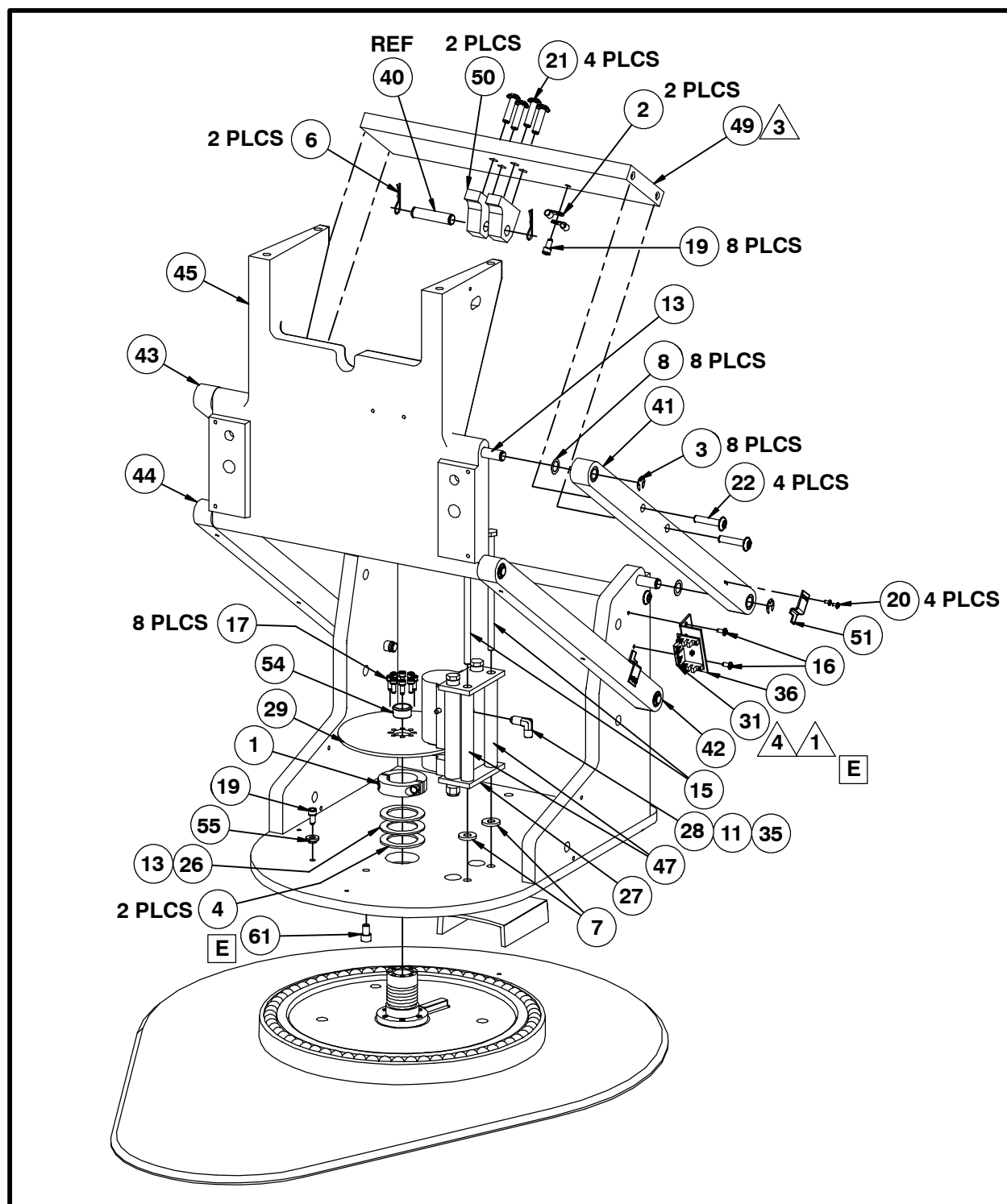
NOTES: **1** THESE ITEMS ARE NOT SHOWN.

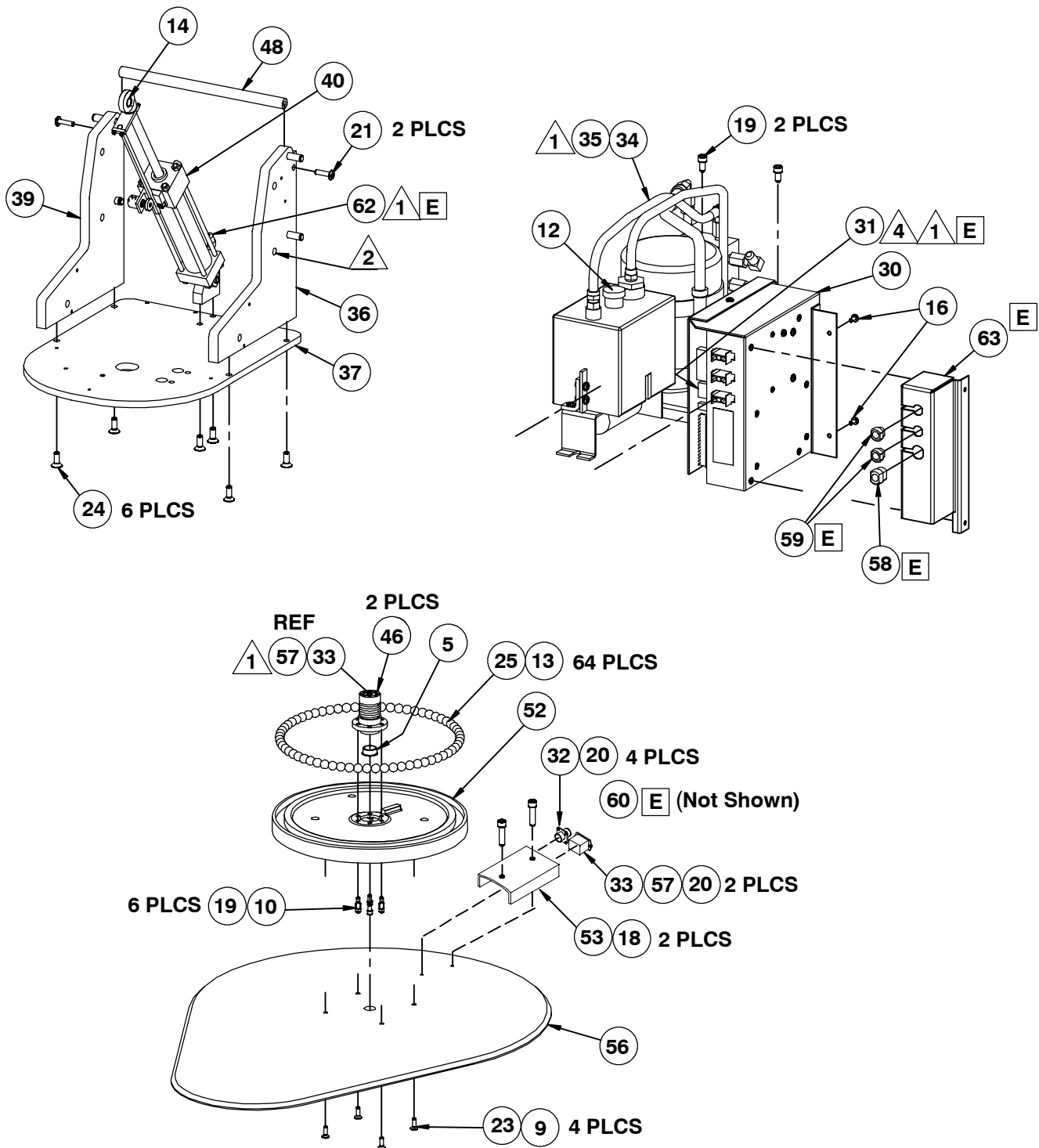
2 INSERT SCREW (021-621-040) INTO LEFT VERTICAL SUPPORT (ITEM 37) TO SUPPORT MAIN LINK ASSEMBLIES, REMOVE AFTER INSTALLING HYDRAULIC SYSTEM

3 POSITION MAIN LINK TIE PLATE (ITEM 48) SO THE FOUR HOLES ARE CLOSEST TO THE UPPER EDGE.

E 4 ATTACH LIMIT SWITCH CABLE (ITEM 31) TO LIFT LIMIT BOARD (ITEM 36) J2 CONNECTOR AND CONTROLLER BOX (ITEM 30) SEAT 1 CONNECTOR.

ITEM	QTY	PART NUMBER	DWG SZ	DESCRIPTION
1	1	018-005-018	SS	CLAMP NUT, 2 PIECE 1-1/2-12 THD
2	2	018-005-019	SS	HOSE CLAMP W/VINYL COATING
3	8	018-007-054	SS	E STYLE RETAINING RING Ø7/16 ZINC PLTD
4	2	018-011-296	SS	THRUST WASHER
5	1	018-016-030	SS	SNAP GROMMET HEYCO #2140
6	2	018-020-105	SS	HAIRPIN COTTER PIN .093
7	2	018-027-102	SS	SPACER .875 OD x .406 ID x .125 THK
8	8	018-027-103	SS	SHIM WASHER 1/2 ID x 3/4 OD .010 THK
9	A/R	020-003-005	SS	LOCTITE #242 - BLUE
10	A/R	020-003-007	SS	LOCTITE #271 - RED
11	A/R	020-003-029	SS	HYDRAULIC SEALANT LOCTITE
12	A/R	020-008-003	SS	OIL-HYDRAULIC "ENLUBOL"
13	A/R	020-008-008	SS	LUBRICANT, CMD EXTREME
14	A/R	020-008-027	SS	ENLUBE GPEP 3 HIGH PRESSURE GREASE
15	2	021-515-149	SS	3/8-16 x 6" GRADE 5 BOLT ZINC PLATED
16	4	021-560-042		8-32 x 3/8 PAN HD PHIL INT WASHER ZINC
17	8	021-619-058		10-32 x 1/2 HEX SOC CAP SCW BL OX
18	2	021-619-064		10-32 x 1-1/4 SOC HD CAP SCW BL OX
19	10	021-619-080		1/4-20 x 1/2 SOC HD CAP SCW BL OX
E 20	8	021-624-017		4-40 x 1/4 BHHS CAP SCW BL OX
21	6	021-624-133		3/8-16 x 1-1/4 BHHS SOC BL OX
22	4	021-624-135		3/8-16 x 1-1/2 BHHS SCW BL OX
23	4	021-635-082		1/4-20 x 3/4 FHHS CAP SCW BL OX
24	6	021-635-131		3/8-16 x 1 FLAT HD CAP SCW BL OX
25	64	023-001-049		5/8" DIA BALL, GRADE 25 CHROME STEEL
26	1	023-005-003		THRUST BEARING, TORRINGTON
27	1	034-001-010	SS	EMERGENCY STOP CALIPER BRAKE
28	1	034-003-035	SS	MALE ELBOW 1/8-27 NPTF TO #4 JIC
29	1	039-004-036	A	BRAKE DISK 6.312 DIA W/HOLES
30	1	102-001-212	D	ASSY, CONTROLLER - MAXI SELECT
1 4 31	1	102-004-601	B	ASSY, LIMIT SWITCH, SEAT
32	1	102-004-604	B	ASSY, INTERCONNECT FOOT SWITCH
33	1	102-007-058	B	ASSY, CABLE - POWER ENTRY
34	1	102-025-026	C	ASSY, HYDRAULIC POWER PACK UNIT
1 5 35	1	102-025-028	B	ASSY, BRAKE HOSE
36	1	102-032-027	B	ASSY, LIFT LIMIT BOARD MOUNTING PLATE
37	1	102-032-028	B	ASSY, SWIVEL PLATE
38	1	102-032-029	B	ASSY, LEFT VERTICAL SUPPORT
39	1	102-032-030	B	ASSY, RIGHT VERTICAL SUPPORT
40	1	102-032-031	C	ASSY, LIFT CYLINDER
41	1	102-032-032	B	ASSY, UPPER MAIN LINK LEFT
42	1	102-032-033	B	ASSY, LOWER MAIN LINK LEFT
43	1	102-032-034	B	ASSY, UPPER MAIN LINK RIGHT
44	1	102-032-035	B	ASSY, LOWER MAIN LINK RIGHT
45	1	102-032-036	B	ASSY, FRONT MAIN 4 BAR PLATE
46	1	107-020-213	B	SWIVEL HUB - MACH
47	2	107-020-215	B	BRAKE MOUNTING TUBE
48	1	107-027-715	B	TOP BASE PLATE - MACH
1 3 49	1	107-027-718	B	MAIN LINK TIE PLATE - MACH
50	2	107-027-719	B	LIFT CYLINDER MOUNTING CLEVIS - MACH
51	2	107-027-735	B	LIFT LIMIT FLAG - MACH
52	1	107-028-104	C	BASE HUB - MACH
53	1	107-028-107	C	POWER ENTRY MODULE - MACH
54	1	107-037-195	B	CORD GROMMET - MACH
55	1	107-037-223	B	RETAINING FLANGE, PUMP - MACH
56	1	113-003-673	B	BASE PLATE - PAINTED
E 1 57	1	007-014-019	SS	CONN, 3 POS. PLUG
E 58	1	018-015-001	SS	STRAIN RELIEF #1200
E 59	2	018-015-016	SS	STRAIN RELIEF #1150
E 60	1	018-015-020	SS	CORD RETAINING CLAMP
E 61	1	021-619-105	SS	5/16-18 x 1/2 SKT HEX SCREW BLK OX
E 1 62	1	102-025-027	B	ASSY, LIFT HOSE
E 63	1	107-022-123	C	GUARD, CONNECTOR ENCLOSURE - MACH





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